

# CONTENTS

Vol. 9

OCTOBER, 1929

No. 10

Editorials .....	34
Speaking of Averages	
Miss Myrna Darby	
The Princess Silhouette	
Candy—The Middy Meal	
Mass Cream Goods Production with Scientific Control—A Cartoon—as seen by A. G. Avent, A. I. C. (London) .....	37
From Panola to "Closed Circuit" Fondant Manufacture—Clifford Clay .....	38
A breezy historical sketch of the development of modern fondant practice	
What Is Happening to Our Cordial Fruits?—E. R. Jagenburg .....	42
E. R. Jagenburg, fruit packer and inventor, sounds welcome warning note that super- ficial gains have been at the expense of quality	
Pre-Roasting Treatment of Cacao—Robert Whympier .....	48
"Chats on Chocolate"	
The Candy Clinic .....	52
Cream and Cordial Works	
Answers to September Questions .....	55
To Bob or Not to Bob—Fred A. von Liebermann .....	56
Monthly Digest of Current Technical Literature .....	57
Of practical interest to the Confectionery industry	
Taffy, Teeth and Toothpaste—Orville H. Kneon .....	62
Part VI—The Role of Candy in Science and Health	
Are You Hooked Up to Sell What the Customer Wants?—Eric Lehman .....	65
Ask Me .....	55
Buyer's Guide .....	5
The M. C. Clearing House .....	88
Index to Advertisers .....	90

Published Monthly on the 15th by

THE MANUFACTURING CONFECTIONER PUBLISHING COMPANY

E. R. ALLURED, Publisher

Circulation Manager: Prudence M. Walker

Subscription Price, \$3.00 the year.  
Single Issues, 50c

✕

Publishing Office:

30 North La Salle St., Chicago, Ill.  
(Phone State 4821)

✕

Editorial Offices:

39 Cortlandt St., New York City  
(Phone Cortlandt 3362)

✕

Eastern Manager

F. M. WATERS

✕

Philadelphia, Pa.

C. W. NORDLAND,  
6426 Baltimore Ave.

A. ADAMS LUND, Editor

Assistant Editor: R. Wilson Wilmer

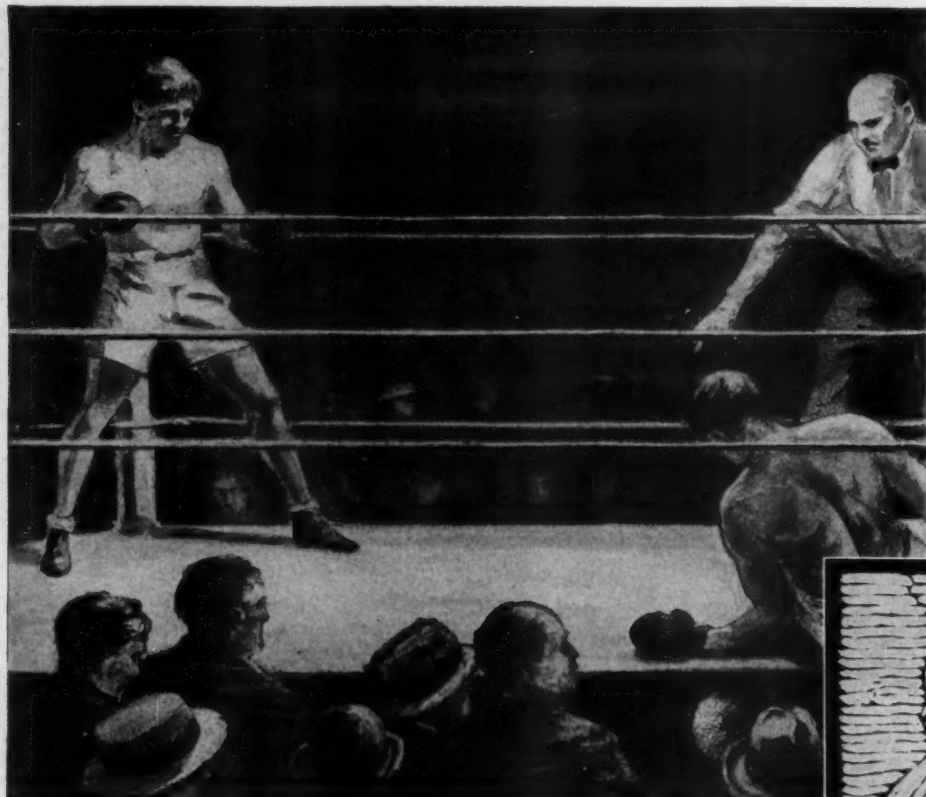
## EDITORIAL STAFF

A. P. Bryant	Norman W. Kempf
F. A. von Liebermann	Stroud Jordan
Robert Whympier	Orville H. Kneon
Dana M. Hubbard	De Witt Cottrell
Sherman Woodrow	Eric Lehman

✕

## English Representative:

L. M. Weybridge, Members Mansions,  
28 Victoria St., London, E. W. 1



## Science Wins!

**S**TRICT co-operation of every move of brawn and bone—every muscle and every nerve working on a definite plan to win—that constitutes the triumph of science over make-shift boxing methods.

Like the trainer working in obscurity to develop these championship qualities, we give the best of our skill and experience to perfect the flavors that make your product win. Every im-

provement—every refinement that ceaseless experiment and research can make science yield are yours to utilize in the flavors that bear the Foote & Jenks name.

And while we, like the trainer, claim no share of popular applause, we believe the generous and constantly increasing demand for Foote & Jenks flavors is a sufficient indication of the value of our service.

FOOTE & JENKS, JACKSON, MICHIGAN

# FOOTE & JENKS' "ISOLATES"

VANILLA . . . LEMON . . . ORANGE and 12 others



THIS Company approaches a half century of specialization in the task of developing and perfecting terpeneless, super concentrated, water soluble flavors. Our entire time and attention are devoted to the manufacture of SOLUBLE Concentrates—to research, work, scientific control, and the constant testing of our products in various forms of foods. It will be to your definite advantage to avail yourself of this specialized service.



# When you need FOOD COLORS

Let your first thought be

## ATLAS

Manufactured by

# —KOHNSTAMM—

First Producers of  
Certified Colors

Strength

Brilliance

Purity

Uniformity



*Established 1851*

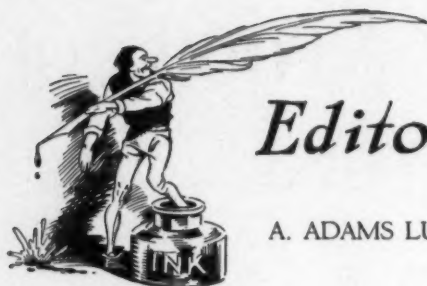
The Atlas Label is Your  
Protection

## H. KOHNSTAMM & CO., Inc.

NEW YORK, N. Y.  
83-93 Park Place

CHICAGO, ILL.  
11-13 Illinois St.





## Editorial

A. ADAMS LUND, Editor

### Speaking of Averages

THE following paragraphs appear in a letter from one of our subscribers:

*"The average confectioner regards his business as very complex, and one in which it is difficult to determine the unit cost of any particular kind of confection or even the cost by departments. A campaign to enlighten the manufacturer regarding the weight of overhead in individual item cost determination would bring out some interesting information and would be of greatest value to the industry at large.*

*I often wonder whether the confectionery industry has ever analyzed the cost of production in general to determine just which factors entering into such a determination, are under the actual control of the individual manufacturer. If this is ever done, I am sure it will find that it has neglected to avail itself of the progress that has been made along the lines of mechanical equipment and labor-saving inventions, which have been developed for other lines. Science has progressed rapidly in the past thirty or forty years; but the candy industry, one of our largest industries, has not kept pace with such developments. The average manufacturer still thinks that he, in his crude way, has discovered secrets and secret methods of producing confections which he alone knows about; when, in fact, nothing is a closed book in the general manufacture of confections, which cannot be improved upon through the infusion of new thought by trained chemists and engineers."*

It is a fact—sad, but true. The candy industry has not kept pace with scientific

development. A few in the vanguard are making all the progress. But like the headlines in the news, we focus our attention upon them and forget that the rest are marking time.

Many worthwhile achievements have been chalked up to the credit of the confectionery industry—mostly the work of a handful of confectioners and a small but active group of supply manufacturers. But there are two thousand commercial manufacturers of candy in the United States, so the average has been low.

What matters it if a manufacturer retools his cream department for straight line production if a thousand others use brawn, time and a basic principle unaltered for fifty years? As we have said, the average is low.

The bulk of the candy produced in the United States is still turned out by the old wasteful hand methods of our grandfathers. We speak of mechanical and scientific progress in the candy industry. Any modern home boasts more labor saving devices than you will find in the *average* candy factory. Any housewife who subscribes to the national women's magazines can tell you more about the food and dietetic aspects of candy than that same *average* candy manufacturer.

Advanced knowledge and advanced equipment we have, but when we compare the progress of our industry with the progress of other industries, we must leave the vanguard out and talk in terms of *averages*.

Speaking in averages, it's a long journey ahead with the going hard.



## Miss Myrna Darby

**F**LORENZ ZIEGFELD has gained world renown and a certain degree of distinction as the "Glorifier of the American Girl." Mr. Ziegfeld is a connoisseur of feminine pulchritude. Fortunate indeed is the young lady whose natural beauty of face and form is sufficient to arrest the eye and win the approval of so discriminating a judge. Those who have, have enjoyed startling metamorphoses. From comparative obscurity, in most cases, they have become overnight scintillating members of Broadway's brightest galaxy—the Follies—wined, dined, applauded and secretly envied by the majority of their sex. "Glorified," indeed!

Under the circumstances, would it be reasonable to expect the advice of one so exalted to be taken lightly by her less favored "sister"? And especially if her message contained the semblance of a beauty hint? Hardly!

Should she by merest suggestion attribute her Venus-like proportions to a regimen of fish fins on toast three times a day, you would find hosts of perfectly sane and normal females partaking of fish fins on toast thrice daily. Such is the psychology of the thing. And it is this human weakness that astute advertisers play up to quite frequently.

In the lobby of the New Amsterdam Theatre, where the latest of the Ziegfeld productions appears nightly, is a display board to which is attached a neatly-lettered placard bearing the following inscription:

### My Pledge

*I pledge myself to slenderness,  
To a figure supple, lithe and slim,  
To the grace of a finely proportioned  
body*

*That enables movement unhampered  
and free.*

*I renounce the false pleasures of the  
table,—*

*Fattening foods and cloying sweets,*

*But I make no sacrifice:*

*I shall smoke cigarettes.*

Then appear the following signatures:

Myrna Darby	Gladys Glad
Frieda Mierse	Murrell Finley
Jean Ackerman	Hazel F. Forbes
Helen Walsh	Adele Smith
Yvonne Hughes Godowsky	

First to sign was Miss Myrna Darby. As if by some strange coincidence we pick up the paper—to find Miss Darby dead! The papers say her death was the result of an over-taxed heart, induced by acute sunburn and strenuous swimming. Good old health-giving Sol received half the blame. Fine, clean, body-building exercise received the rest. Perhaps the two had a hand in it... until we think of the "overtaxed heart" and her pledge "I shall smoke cigarettes."

"I make no sacrifice." How empty the words sound after the final curtain is rung.

Nine beautiful creatures glorified by God—duped into signing a moron's pledge. Number one is dead. Can it be that her death warrant hangs in the lobby of the New Amsterdam Theatre?

## Candy—The Mid-day Meal

**I**N his address before the gathering of manufacturers, jobbers and retailers attending the Candy Trade Rally at the Pennsylvania Hotel in New York City, Mr. George Williamson, father of Oh! Henry and other widely-advertised confections, voiced an opinion that might well be taken up as a slogan by the entire industry. Mr. Williamson prophesied that the day would come when candy

would be eaten in lieu of our present mid-day meal. What at first glance appears to be overly optimistic, upon further analysis appears not only possible but quite logical.

Consider this: In candy we have a concentrated healthful food that supplies all the energizing force necessary to drive the intricate human machinery. After entering the body, it is easily assimilated, re-

quiring little further breaking down by the digestive organs.

A meal of candy at noon and that sleepy, sluggish feeling, so common to many of us after our usual midday luncheon, would be a thing of the past. Then, too, candy offers a variation in the diet that should be quite acceptable to the average individual, especially if one feels the way the writer does upon being handed that inevitable menu. "Well, what will it be this time?"

What are menus anyway? In the majority of cases, the same old story told over and over again, sometimes in a slightly different language or with a new French twist just to fool you into believing that you are getting something different. Morning, noon and night, day in and day out for the rest of our lives we have to eat. Some manage to get a certain amount of pleasure out of it—but pleasure is noticeably characteristic of the hurried snack we call lunch. Introduce a little variety into this

endless cycle of sandwiches and pie and we have accomplished something for the good of humanity.

There are certain very definite points in favor of a midday candy meal, and properly stressed, there is no good reason so far as we can see, for candy not enjoying its rightful place among luncheon foods. Of course there will be opposition—no radical idea has ever been advanced that did not stir up a multitude of objections. But what of that? It has all the earmarks of a great idea. Let's try it out.

"Candy—the midday meal." Don't you believe with us that such a slogan pounded in relentlessly every day, on every piece of correspondence, in every bit of advertising, by every organization associated with the industry would in time have its effect?

Organized thought has to be fostered. "Say it with Flowers" made the public flower-conscious. "Candy—the Midday Meal" will make them think of candy!

## The Princess Silhouette

One reads in the fashion ads these days much that is heartening to the cigarette-seared soul of the confectionery manufacturer. We gleaned this from the ad of a New York department store in the New York Herald Tribune:

### "The Princess Silhouette"

Fashion smiles upon the natural figure and decrees that it shall be moulded softly to its own perfection . . . to a graceful fluidity of line . . . to achieve the long-limbed foundation for the pure beauty of the princess frock . . ."

When the fashion ad-writer speaks of

"fluid lines" and a "natural figure," the sweets industries may well rise in their chairs to give three cheers and a couple of hosannas. For if it means nothing else, fashion is withdrawing from the side of the cigarette.

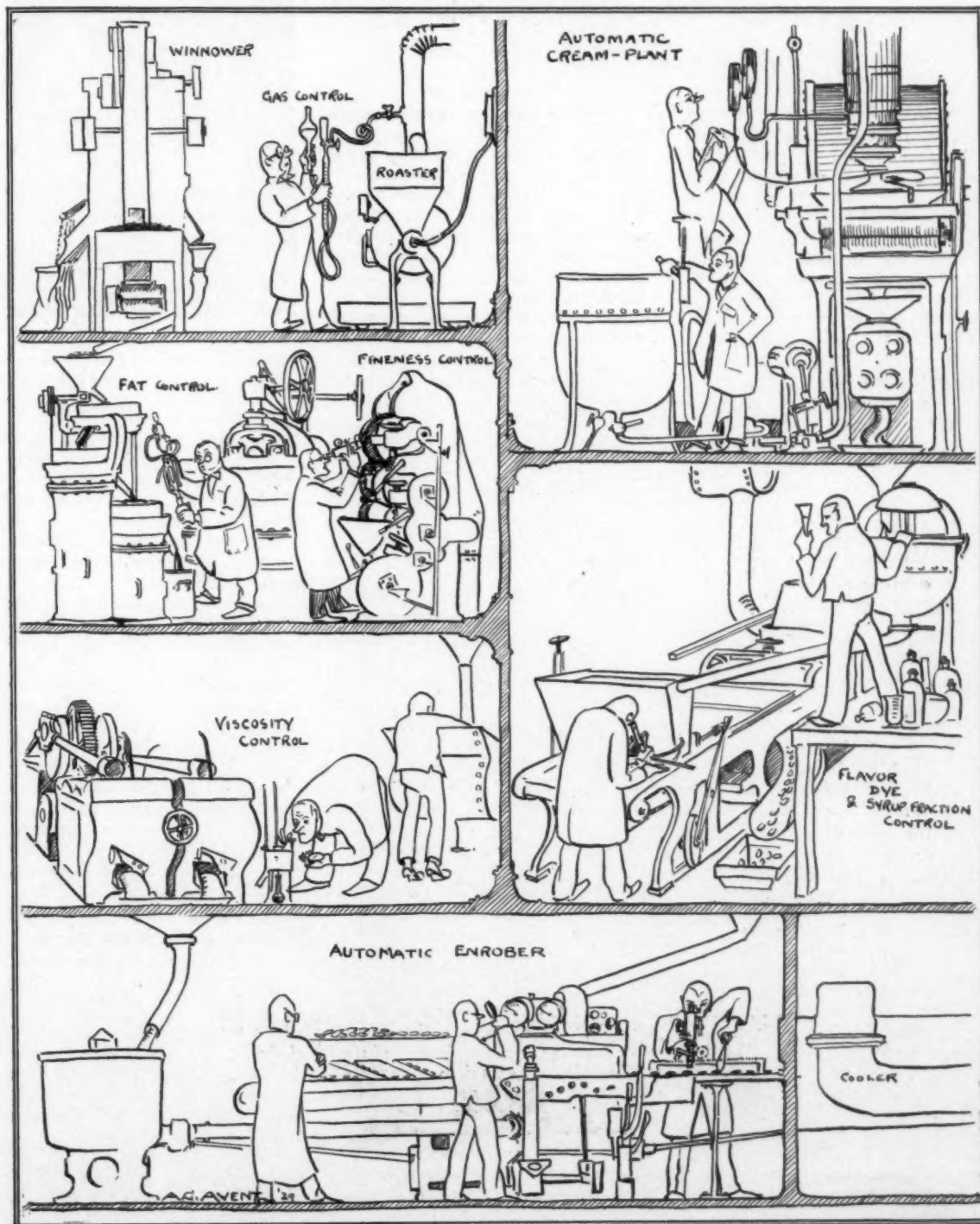
Moulded softly to its own perfection. . . . In other words, the Straight Line Sylph gives way to the Rounded Slim. Girls whose martyred frames are still susceptible to the alteration, can now indulge in an occasional calory to fortify their orange juice.

The curved line is the line of beauty. We knew it all the time.



# Mass Cream Goods Production —with Scientific Control

as seen by A. G. AVENT, A. I. C. (London)





# From Panela to "Closed Circuit" Fondant Manufacture

A breezy historical sketch of the  
development of modern fondant practice

BY CLIFFORD CLAY

**J**UST when men started separating sugar crystals from cane juice and using them for sweetening it is impossible to say, but in Columbia and in some of the other tropical American states there are still sugar mills in operation which can differ little from the first and worst outfits which must have existed many hundreds of years B. C.

These mills consist of a pair of rough, vertical wooden rolls. In the more up-to-date (?) establishments these are turned by a horse. The cane is crushed between these wooden rolls and the expressed juice collected as the raw material for the manufacture of the fondant which is the subject of this article.

The cane juice is next boiled until it is "fairly thick." I know this is an indefinite and unscientific statement, but so is the whole process. Then it is stirred while it cools. The result is a mass of fine crystals wet with a heavy surrounding syrup and just mobile enough to pour into moulds.

These moulds are interesting, for, while made either from baked clay or by the simpler expedient of scooping out holes in the ground, they are very definitely the shape of a tea saucer, about five inches in diameter and two inches deep at the center. Once in these the mass hardens rapidly by complete crystallization. The resulting cakes are wrapped in paper and sold as Panelas.

## Early Fondants

Panela sugar is highly prized in the countries of its origin and very nice it is, too. So nice, in fact, that some of our brothers in the Southern States import it to use with pecans in the production of "Creole Pralines."

As Panela, or Praline, or by any other name, it is probably just such sugar as the first sugar boiler prepared. Furthermore, it is *fondant*.

Columbia is quite a journey away, however, and one need only go to Vermont to see the same process followed using maple sap as a base. Not all maple sugar producing farms make "maple cakes," but when they are made by one who knows how the result is a medium-hard cake of fondant, a little rough for the epicure, perhaps, but still so delicious that it must be eaten to be appreciated.

Still more familiar are the sugar peppermint wafers which are made in exactly the same way, but in small batches and from refined cane sugar. I do not refer to the cream peppermints run in rubber mats, but to the translucent, rough creams dropped from a funnel directly on to marble or a piece of paper.

All of these are simple forms of fondant.

## Relics of the Candy "Stone Age"

It was undoubtedly a bit tricky to make fondant in this way, but when white sugar came along, freed of its gums, acid and natural invert sugar, it was still harder to make it up into a syrup, then stir it so that it would grain smoothly. It was soon found, however, that when a batch of syrup was made for some other purpose the syrup clinging to the sides and bottom of the kettle after the batch was poured, although clear and ungrained until the vessel was scraped, turned into real fondant as soon as the vessel was scraped. This could be kept and melted down for many uses; so little by little it proved to be worth making in quantity. So the syrup was next cooked and run into shallow pans "to cool before it turned to sugar," as a native Peruvian planter described it to the writer. From this it was only a short step to pouring it on a smooth flat stone which is probably the simplest method of fondant-making with which the present-day confectionery manufacturer is familiar.

The flat marble with bars sur-



Clifford Clay.

rounding the edges was followed by one which had for convenience a center depressed to a depth of an inch or two; it somewhat resembled a great serving dish. One seldom sees these around nowadays, but Thomas Mills still lists them under "No. 165," so unless they are present merely as relics of candy's "stone age," there must still be some demand for them.

The flat marble with steel bars was applicable to so many varied uses that it ruled a favorite for some time. The coming of the water-cooled steel table had less influence on hand-made fondant than might have been expected. The old cooks preferred stone, for there was less danger of discoloration by rust, and the small amount of crystallized sugar remaining behind in the porosities of the stone acted as a seeding agent on the new batch. They were right when they said the batch turned up faster on marble than on steel.

## When Bauer Made Huyler's Bonbon Cream

It was not a pure unalloyed love of getting out a big day's work which actuated them in making this choice. One would have to spend days on end turning up high cooked fondant by hand to realize what it meant to these poor fellows to have a little help from the slab.

They were great days when Bauer made Huyler's bon bon dipping cream. All sugar, water killed and

## THE MANUFACTURING CONFECTIONER



Thos. Mills still lists as "No. 165" this ancient and honorable relic of candy's "Stone Age."

cooked to 248° F. Then he poured it carefully on to a slab to get cool; to get "stone cold," that is. Two of the boys next went to it with spades and turned until it set up as hard as the marble itself and had to be broken down again and kneaded by hand until it suited the old man. It took a real he-man to turn one of those batches, and it was a lucky team that could save a little from one batch to "start" the next.

About this time there were several changes in the fondant-making process, the exact order of which it is difficult to determine. The writer has asked many old candy makers whether they first used a flat "ball type" beater or a dough mixer to turn up their fondant. The votes are about evenly divided, but we back the circular type, for it was the logical step forward, and the dough mixer always carried the odor of a rank outsider with it. As a cream machine it simply didn't belong. It seemed to do the work all right. Many men swore by it, but on the whole I guess more swore at it. It couldn't be right, for the whole principle was wrong.

### Machines vs. Robots

The tendency in the development of candy machinery has been to build mechanical men rather than scientifically - designed machines. This tendency is illustrated in the designs of some of the early fondant beaters. Some years ago a small German factory closed its doors and sold out after a long and notable life. Among the machines offered for sale was what was probably the forerunner of the circular beaters. A marble had been countersunk with a great oval depression resembling a race track. Above this, the ingenious designer had constructed an imposing elevated railroad from which four plows were driven round and round the course below. A man watched the process and shoveled the cream back under the plows as they pushed it into the paddock and against the outer rail.

An old workman who looked on sadly as the break-up went on ex-

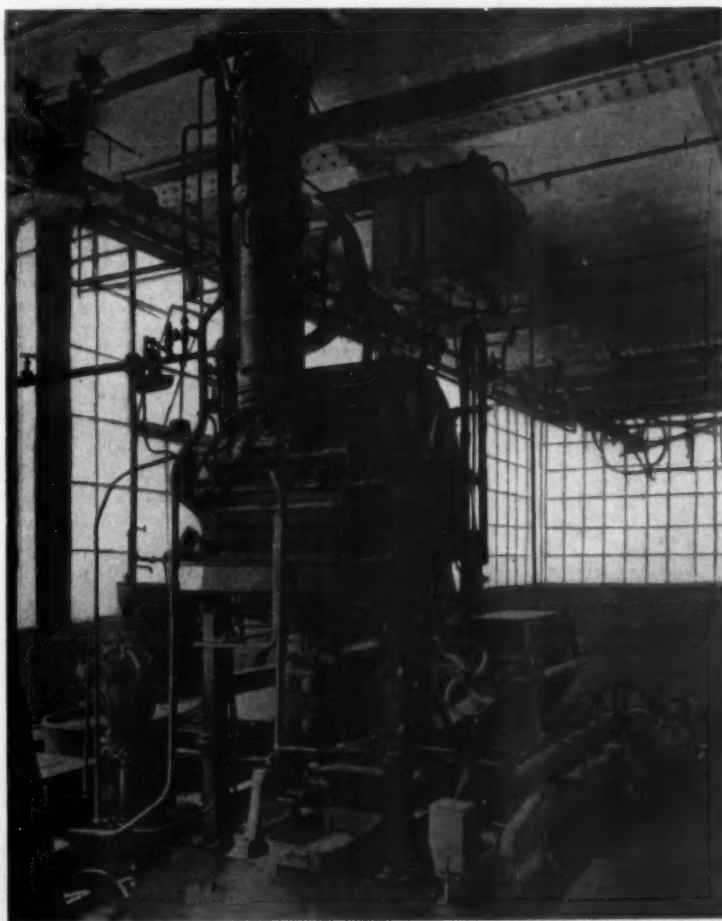
plained that the machine made good fondant if one did not get his arms caught. There was no reason why it shouldn't have.

It is hard to say what the real *first* of the circular beaters looked like. On the Continent there are still circular beaters in use which are equipped with marble, iron, granite and copper beds. Some are water-cooled; some are air-cooled and some are not cooled at all. Occasionally the beds are surmounted by large fans which blow air on top of the cooling batch. Many are simply

converted melangers from which the stones have been removed and ploughs substituted. The machine manufacturers themselves often lightened the construction of their standard melangers, substituted ploughs for stones and sold them as cream beaters. They all work.

### Survivals Still in Use

With the coming of uncooled mechanical beaters the countersunk slab had its day. At one end a section of the edge was removed and a loose bar substituted. Under this end a beater of either the circular or mixer type was installed and when the batch on the marble was at the right temperature the end of the marble farthest from the beater was raised by means of a block and tackle arrangement and the whole batch scraped into the beater. It was not a bad system and much good fondant was produced with it.



The Baker Clay Continuous Process Cream Plant. In practice, the cream plant delivers the fondant directly into the hopper of the depositor, thus completing the circuit from kettle to chocolate coater.

## FROM PANELA TO FONDANT



Handrolls by the old method.

Next the manufacturers of circular beaters water-cooled the beds of their machines and the hot batch was poured directly into the machine and allowed to cool there. At the right time the machine was started and the job finished. This is still largely done.

When the demand for fondant began to exceed the capacity of these machines the candy manufacturer suddenly realized that he was getting about half the return he should on his investment. That is that for the amount of time consumed in cooling the batches; his return was only commensurate with what he should have obtained from a water-cooled steel table. Consequently he demanded a separate cooler of convenient construction to use in conjunction with his beaters so that he might increase their output.

### Speed Takes a Hand

A double connection was tried by

means of which cold water could be circulated through the jacket of the cooking kettle in which the syrup was boiled. This was not good enough. The cold water caused such a sudden and violent contraction of the copper that steam leaks resulted, and anyway, the cooling was not fast enough and the batches often grained.

To further hasten the cooling, a big copper coil with flexible connections was arranged so that it could be dropped down into the kettle when the cooking was completed. By circulating cold water through this coil, the cooling was materially speeded up.

This helped, of course, but it was cumbersome at best and not at all unlikely to leak. And it occupied so much room in the kettle that the batch had to be reduced in size to a point where it was just as economical to tie up a beater.

The answer to this problem came from the machine builders through the introduction of the jacketed and coiled cream cooler—a method of cooling which is still quite extensively used in America.

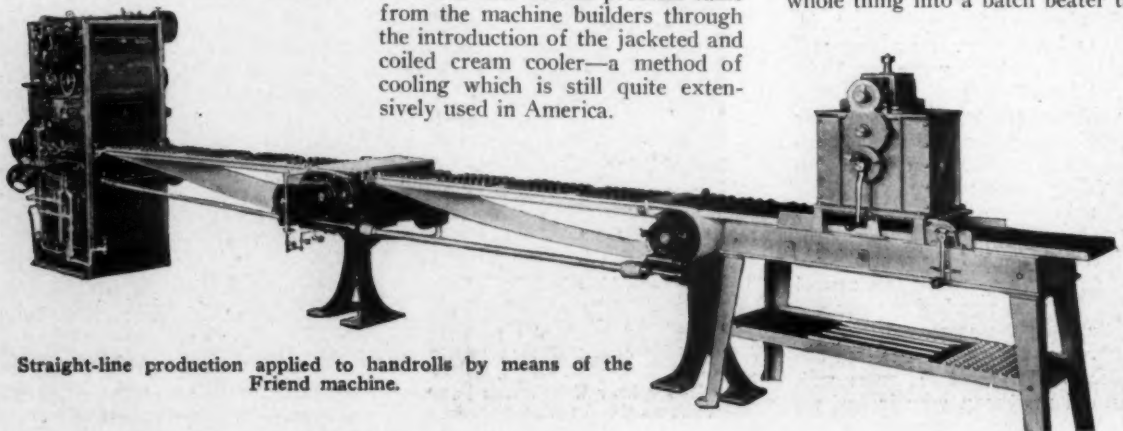
Cream or fondant-making had finally been reduced to an economical and eminently satisfactory process. A pair of steam-jacketed kettles, a pump or a vacuum to move the syrup from the kettles to a cooler set above one or more circular beaters, made, and still makes, a very logical and economical unit of production for a small plant. The cream produced can be as fine as anything which it is possible to make.

### Advent of Continuous Beater

But in the midst of all this contentment arose some trouble-maker waving the continuous beater. The whole system was jumbled up in a minute. The new type beater was located under the batch cooler. Many things were claimed for it, but the layout was not "homogeneous."

Candy manufacturers found themselves faced with strange difficulties which they did not understand. They began to find it necessary to study the complicated changes taking place in the crystalline structure of the fondant and in its moisture distribution when beaten at different and varying temperatures. Their conclusions were something like this: "The batch cooler was right for the batch beater. But if we are to have continuous beaters we must have continuous cookers and continuous coolers as well. This half-and-half lash-up is illogical and technically wrong.

"The syrup in the cooler is getting colder and colder all the while the beating is going on. The portion next to the jacket and coil are necessarily colder than the rest of the batch, for by the time we are ready to start beating the syrup is too viscous to have its own convection currents. When we dumped the whole thing into a batch beater this



Straight-line production applied to handrolls by means of the Friend machine.



## THE MANUFACTURING CONFECTIONER

made little difference, for it was thoroughly mixed before the actual beating began. Consequently the resulting product was uniform. In the continuous beater which you have built the syrup in effect forms a separate batch along every inch of its tubes. Every one of these batches is being beaten at a different initial temperature from that of its neighbor.

"These innumerable batches are dumped together unmixed into the storage tubs and the whole thing served up to the cream cook, who is expected to produce uniform goods from it."

### Age of Machine Design

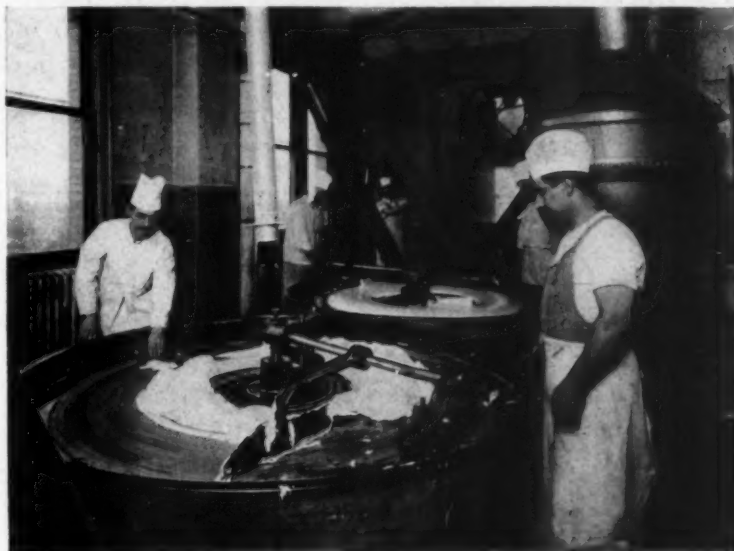
This did not dismay the machine manufacturers. They were beginning to design machines, not mechanical men. Their answer to this latest outburst was the spiral continuous cooker and water-cooled drum coolers. Provided the water circulation under the cooling surface of these drums is so designed that the surface temperature is perfectly uniform at all times, this outfit set over a modern continuous beater is the very last word in fondant production.

Again, therefore, we have a satisfactory and homogeneous unit. And until some bright soul knocks it over with a new and better idea all will be peace and happiness.

Jim Booker advocates a return to the flat type. He says, "Cool your batch in the machine and beat it there." Well, Jim is talking about hand-rolled creams and there is very much to be said in favor of hand rolls as he makes them!

The logical sequel to the continuous cooker, cooler and beater came

in the form of an attachment for the continuous conversion of the fondant into cream centers. Where large production is required there is now no stop between the mixing of the sugar and corn syrup for the fondant cooker and the shaking of the centers out of starch half an hour later.



The current widely used method of fondant manufacture is characterized by much hand labor. It is this which the Baker Clay Continuous process seeks to do away with.

### Closed Circuit Based on Close Control

This closed circuit was impossible or impractical so long as there was any variation in the temperature of the syrup entering the beater. The success of the system depends upon the control of crystallization and therefore the factors which promote crystallization must be unvarying. The transit and exit temperatures are vital, but they cannot entirely overcome a variation at the entrance.

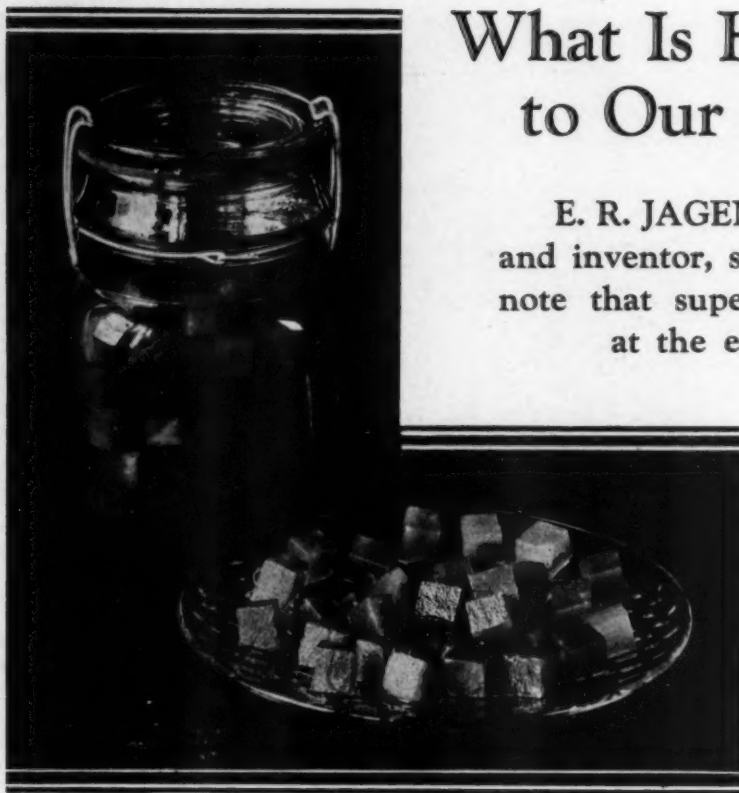
Now it is possible that every reader may have in mind some process or step which has not been mentioned; so has the writer, but this is primarily an article and not a book.

There is no space to tell of cooling the syrup on canyas with all the mess and fermentation that resulted. None for a description of the air-cooled continuous beaters so popular on the Continent. They deliver the fondant after so short a beating and at so high a temperature that it is little more than a milky syrup. Strangely enough, however, it cools and matures into perfect smoothness.

No space for a raw fondant made by mixing sifted and air-blown

(Continued on Page 61)





Do we want "hairbreadth" uniformity if it can only be gained at the expense of flavor and natural acidity?

THE satisfaction which one obtains from cordial fruits employed for chocolate dipping mainly depends upon two factors: the extent to which the individual piece retains or duplicates the natural character of the fresh fruit from which it was made, and its ability to resist fermentation, etc., in the finished center.

Fruit declared to have been processed for dipping directly from the fresh fruit "the day gathered where grown" might reasonably be expected to be superior in flavor and aroma to fruit which has been allowed to stand around or shipped any considerable distance to a cannery. However, it is unavoidable that some fruit, by reason of its remoteness from the processing factory and a lack of adequate refrigerating facilities between these two points, be processed from fruit which has previously been canned or put up in bulk in sugar syrup. Such fruit rarely equals the field packs in freshness of flavor but under the circumstances, is probably the next best thing.

In the case of pineapple, it is my opinion that the average confectionery manufacturer (and fruit packer, too, for that matter) pays entirely too much attention to obtaining a uniform and symmetrical shape and to what is mistakenly referred to as "tenderness of texture," when he should be watching out for strength of flavor and the preservation of the fruit's natural acidity.

#### Bartering Flavor for Tenderness

How often you hear a salesman offer you pineapple that "melts in your mouth." Little does he realize that as he does so he brands his pineapple as an inferior product. The excessive "tenderness" which this phrase implies can only be obtained by over-sugaring and over-processing—neither of which becomes much of an asset to the product.

The manufacturer whose pineapple "melts in your mouth" has bartered away its flavor and acidity for tenderness—a poor bargain so far as the confectioner is concerned since he needs all that flavor and acidity to kick through the cream

# What Is Happening to Our Cordial Fruits?

E. R. JAGENBURG, fruit packer and inventor, sounds welcome warning note that superficial gains have been at the expense of quality

BY E. R. JAGENBURG

*Vice-President, Crown*

*Fruit & Extract Company*

and chocolate with which he must subsequently envelop it.

The variety of pineapple commonly employed for the manufacture of cordial dipping fruits is known as the "Smooth Cayenne," grown and cultivated in the Hawaiian Islands. The pieces to be used for dipping are cut from the conventional round slice with a hole in the middle from which the core has been removed.

The Hawaiian pineapple people have spent huge sums of money to teach the public that the finest eating portion of the fruit is that which is nearest to the skin. Yet in order to obtain perfect "cubes," it is necessary for the dipping fruit packer to sacrifice a substantial part of this tender and more flavorful outer portion of each slice.

#### Hairbreadth Uniformity vs. Flavor

Hence there is a direct relationship between the shape and uniformity of the cubes you buy and their general excellence in flavor and natural tenderness of texture. It does not follow that all cubes and wedges which are irregular in size and shape are necessarily better than those which are uniform in this respect. There is such a thing as careless workmanship and inefficient grading.

Nevertheless, from the standpoint of the distinctiveness and eating quality of the finished piece of candy, it is often better to yield a little on the question of absolute uniformity in order to obtain a cube or a wedge whose flavor is as delicious and appetizing as it is possible for that pineapple to be. The



A strawberry plantation in the famous Pajaro valley (California). Strawberries are produced in the valley nine months of the year. Note the irrigation trenches at the left.

hairbreadth precision which some boast for their products can only be secured at the expense of excessive trimming and over-sugaring.

There is no question but that over-sugaring, and by this is meant processing the fruit with a syrup of too high a Baumé, is responsible for the impoverished flavor of many of the brands of dipping fruit which are now on the market. It is obvious that this flavor be kept as strong and as natural as possible lest the subsequent application of fondant and chocolate coating destroy its identity altogether. How to have the syrup density high enough to guard against the ever-present dangers of fermentation and low enough to insure retention of the fruit's natural flavor

and acidity is a problem in osmosis worthy of any chemist.

#### Attention to Natural Cordialling Properties

Furthermore, a cordial fruit must conform to its name by being processed in such a manner that liquefaction of its surrounding fondant will take place within a reasonable length of time, usually two or three days after dipping.

Not infrequently a fruit will be found to possess sufficient flavor but to be lacking in natural acidity. Such a fruit would make a poor cordial unless some artificial means were employed to assist it in liquefying the fondant. The enzyme "invertase" is constantly finding a wider

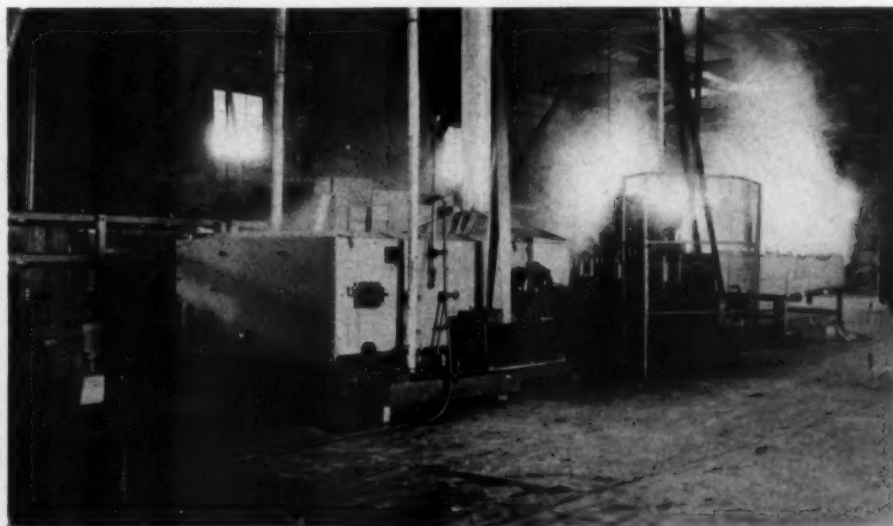
employment for this purpose.

The function of invertase is a specific one—to break down sucrose (cane sugar) into a soft, creamy syrup known as invert. The amount to be used must be gauged according to the amount needed to bring the natural cordializing properties of a particular fruit up to par.

#### Safeguards Necessary in Buyer's Factory

Assuming that the fruit itself has been properly processed, sterilized and packed under sanitary conditions, it is important to point out that all this effort will have been wasted unless similar precautions are observed in the buyer's factory.

Every possible safeguard must be



The "heart" of a modern fruit canning factory.



employed to prevent bursting, fermentation, sowing, etc., which might result either from manual contact, from the yeasts in the air, or from the use of utensils which are not thoroughly cleansed and sterilized before using. These precautions are particularly important during the draining and dipping of the fruit.

Confectionery manufacturers not infrequently look to the cordial fruit manufacturers for redress when a batch of cordials goes wrong, and although the supplier is not always blameless in this respect, nine times out of ten the trouble is traced to some seemingly innocent practice or trivial condition in the buyer's own factory. No one is perfect, least of all the dipping fruit manufacturer, but he at least has to observe these simple precautions or be forced out of business, whereas cordial dipping is usually a small part of the confectioner's business and the conditions conducive to the fermentation of fruit not always recognized or taken as seriously as they might be.

#### Natural Cherries and the Pure Food Laws

There has been considerable controversy of late concerning the Pure Food Law regulation which pre-



scribes the marking of boxes containing chocolate covered Maraschino-type cherries with the legend: "These cherries have been artificially colored and artificially flavored," and "Preserved with benzoate of soda."

I don't blame confectionery manufacturers for wincing a little bit under the onus of so unappealing a declaration to the American public, but on the other hand, why assume that fruits like cherries and pineapple cannot be processed without the use of artificial preservatives or in the case of cherries, without artificial color and flavor?

Any reputable cherry packer is or ought to be in a position to produce such a cherry. Nor is it essential, as many suppose, that this cherry be prepared from domestic cherries. There is nothing the matter with the Italian cherry provided it is put up to conform to these requirements.

And being of the Italian variety, it may be had in all of the desired sizes.

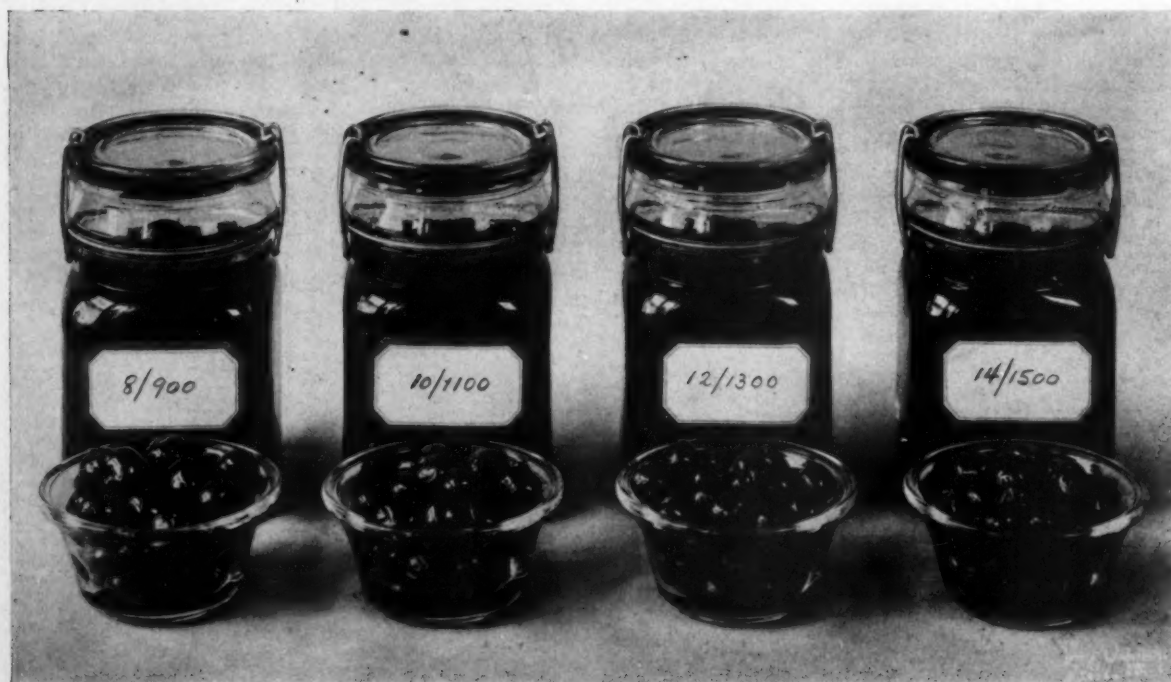
#### Italian Cherries Not Out of the Running

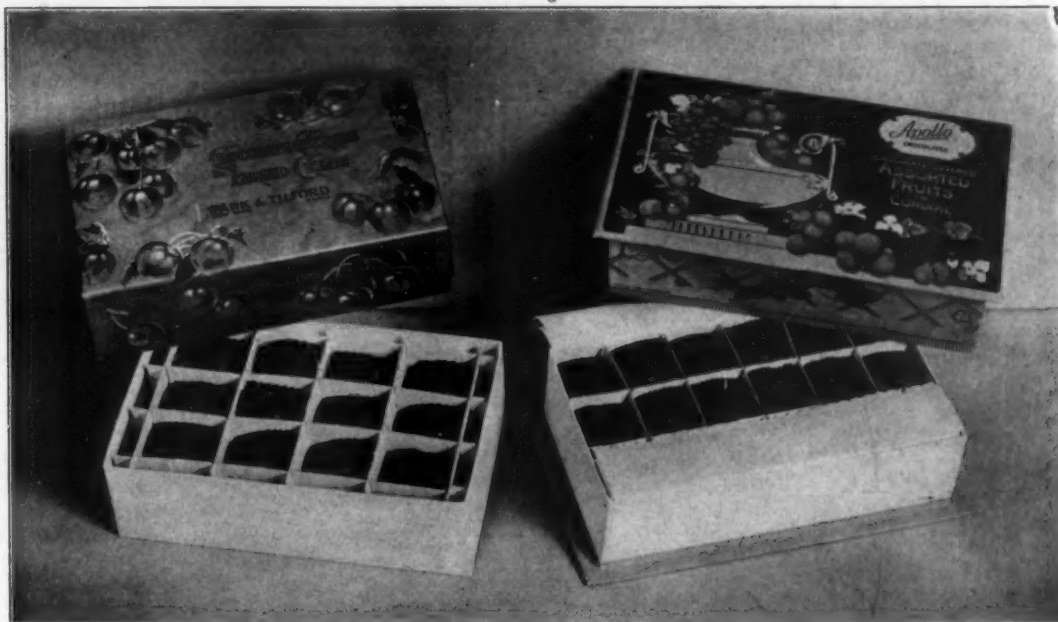
A sample box which the writer dipped up in March, 1928, and which liquefied perfectly, is today in as good condition as when it was dipped. The only objection to this cherry from a sales standpoint, would be the absence of the characteristic bright red color, but if that is considered too much of an obstacle, the simple declaration "Colored with Government certified pure food color" ought to take the "cuss" off it.

Another objection may be the price, since it takes more time and the utmost care to prepare. Also, the ingredients themselves are more expensive. Nevertheless, it is evident that something on this order is needed to bring about an "about-face" in the cherry industry.

The ruinous condition of the cherry industry was mainly brought about by the price cutting orgy in chocolate cherries, and the chief object of the trade still seems to be to see how cheaply a box of cherries can be produced instead of "how

## Soon Nothing Will Be Left But the Pits—





A pair of attractive-looking cordial fruit packages.

many *good* boxes of cherries can we make and sell at a profit."

#### Nothing Left but the Pits

The tendency toward smaller and smaller sizes of cherries used for chocolate dipping has just about reached the vanishing point. It is nothing to call for cherries of 1400 to 1500 count and smaller although the makers of cherry packages know that cherries of these sizes do not make a good eating chocolate cherry.

Unless the cherry represents a reasonable proportion of the total mass, its identity is bound to be lost and the customer disappointed. Yet

the vicious merry-go-round goes on. A puts out an 11/1200 count cherry for 44c; B goes him one better and puts out a 12/1300 for 39c; C figures that in order to get the business from B he will have to put out a 14/1500 for 37c; A, now definitely out of the picture, decides to come back with "seconds" (selected out of the whole and broken) for 33c—and still no end in sight.

The larger sizes, from 700 to 1000, are neglected. Doesn't it stand to reason that if the tendency toward high counts continues we shall have nothing left but the pits? We are certainly close enough to them now.

The relative proportions of the different sizes of cherries obtainable from an average orchard run of cherries in brine are as follows:

Large sizes—one-third.

Medium sizes—one-third.

Small sizes—one-third.

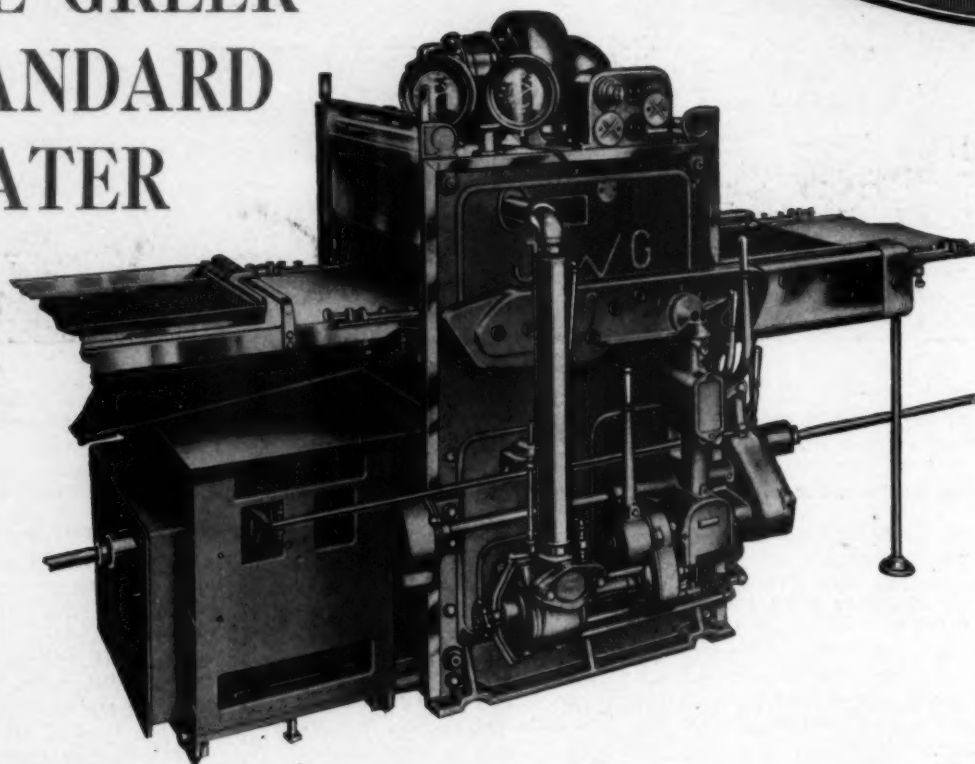
Only about 10% of the total run extra small. These figures indicate clearly what is going to happen to cherry prices if the present tendency continues. The warning "back to decent sizes and quality" may well be in order, and if heeded may in the course of time bring about a return to better business and larger profits in the chocolate cherry business.



**ACCURATE and Uniform  
Coating and Cooling mean  
GREATER profits . . .**



# THE GREER STANDARD COATER



There are doubtless many ways of increasing profits yet one of the most obvious ways is usually very reluctantly used—the replacement of obsolete machinery with the latest and most efficient available.

The manufacturer who can produce the best coated goods with the least Labor, Material and Waste is going to win out in the long run.

Are you operating your Coating department under a handicap? If it is not equipped with Greer Coaters you are! The Greer Coater is noted the world over for its accurate and uniform coating, its large output of high quality goods, its remarkable freedom from mechanical troubles—hence small upkeep,—and its ease of operation.

**J. W. GREER CO.**

Manufacturers of Confectionery  
Machinery that Pays Dividend

119-137 Windsor Street

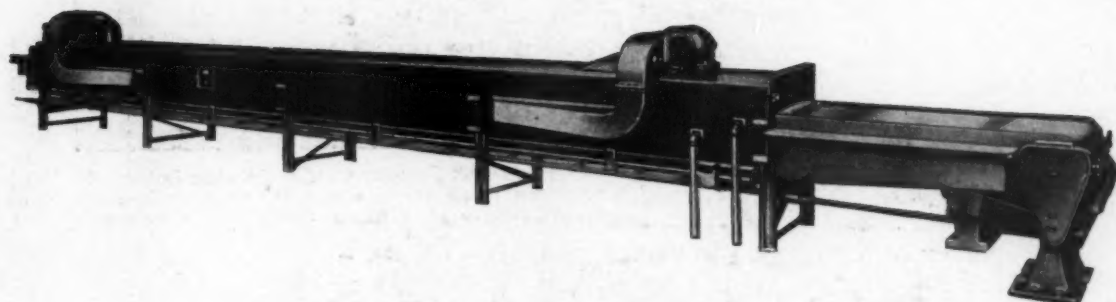
CAN







**UNIFORM COOLING**  
**Irrespective of Weather**  
**Conditions . . . . .**



## **GREER COOLING TUNNEL**

In order to be classified as a good chocolate it is necessary for a center to be good in the first place, and then it must be coated and cooled correctly. A wonderful center can be absolutely ruined by imperfect coating and cooling or it can be made into a product of which you can justly be proud. Is it wise to take a chance when you can be certain simply by coating and cooling your centers on Greer machines?

The J. W. Greer Co. has specialized in chocolate coating and cooling equipment for several years. Many of the leading confectionery manufacturers have found that the installation of Greer Coating and Cooling machines has eliminated their troubles.

**GREER COMPANY**

Greer of Confectioners'  
 that Pays Dividends

**CAMBRIDGE, MASS.**

The results we have obtained for others justify our assurance that we can help you.

You incur no obligation by asking for our assistance.





"After every fall I sought a better chocolate factory and 'fresh fields and pastures new,' where I could blend cocoa prepared by a happy superintendent with milk from contented cows."

# Pre-Roasting Treatment of Cacao

## IX "Chats on Chocolate"

BY ROBERT WHYMPER

(Author of "Cocoa and Chocolate" and International Chocolate Authority; writing exclusively in *The Manufacturing Confectioner*)

**M**ANY cacao and chocolate manufacturers jump in their minds and in their processes straight from the cacao bean storeroom to the roasting-room. If cleaning and grading are adopted, they are usually considered as a concession to propriety and precedent rather than as two of the first essentials for making good chocolate. In other factories I know, where cleaning and grading were formerly practiced, some hard-headed economist or efficiency expert (efficient in everything but quality) has seen in this preliminary treatment of the beans a wonderful opportunity for exercising his talent in reducing costs, and they go by the board. Yet a little common sense will tell anyone that a fatty, odor-absorbing product depending for its ultimate aroma or flavor

upon a degree or two of temperature and a minute or two of time in roasting cannot be slightly treated in this offhand manner.

Need one elaborate this statement of fact? Is it really necessary to point out that organic dust, pieces of wood and broken shell *char* on heating, giving off pungent smoke that can ruin the finest cacao? Is it not an insult to a sane man to remind him that at any given temperature a large cacao bean will roast more slowly than a smaller, and that in consequence, if both large and small beans are mixed together in a roast, it is a physical impossibility to secure the optimum development of aroma of both large and small beans simultaneously; that if the small beans are roasted to perfection, the large ones are under-roasted, and that, vice versa, if the large beans have

developed maximum aroma the small beans will be burnt?

### Bean Variations Alter Roast

There may be no need, and it may be an insult, to call attention to these things, but how many manufacturers realize in addition that the difference of one to two percent of moisture in different batches or brands of beans, and different thickness of shell, also for physical reasons, prevent the quality man from roasting together his beans grown and processed in Venezuela, Trinidad, Costa Rica, and other places where climatic and fermentation conditions are often totally dissimilar. Further, it never seems to occur to most manufacturers that the aroma of one type of cacao requires different treatment to that of another if the best flavor is to result. Nevertheless, the state in

which the aroma exists depends upon natural variables and upon the treatment undergone in processing which is different in every cacao producing country, and the aroma can only be developed to its best point by special roasting in each case.

My own opinion is that cleaning and grading cannot be carried too far when quality chocolate is under consideration, and, if I were asked to pass judgment on a factory by walking through it once, my decision would be based mainly on the treatment of the beans up to and including roasting.

In the cacao pod itself there are beans of all sizes, and, of course, if the pods are not all equally ripe, even when from the same tree, the beans vary in size from pod to pod. Further, Criollo, Forastero and Calabacillo cacaos differ also among themselves in the size of the beans. It is, therefore, not possible for the planter to ferment beans all of the same dimensions however much he would like to do so for the uniformity of his product, and this inability brings about other dimensional differences in beans, namely, flatness and plumpness, which are of extreme importance in the process of roasting. Need one enlarge upon this by saying that a flat bean roasts more quickly than

a plump one of the same length and breadth?

During the writing of the present article the question was put to me, "What short-cut processes do you recommend for making chocolate?" My reply was, "I don't know of any short-cut yet for making first-class chocolates, but I have much to learn." It seemed that some offense was taken at my answer for a remark that has always worried me quickly followed, "If neither consumer nor storekeeper complains of our product, there is no reason for you to say that our chocolate is not first-class as the public knows it, or as they want it. And by the way, it is made without any of the special care you speak of in your book." I know! I, too, in my time have made many hundreds of tons of chocolate in that way without a word of complaint from anyone and with some praise from the shareholders after the first year's increased dividends, but quite frankly I don't talk about it. Fortunately, my lapses from grace have been few, and they are not likely to be repeated except under similar conditions of economic pressure which, in my more mature years, I am beginning to understand is rather a pressure of panic than of necessity. After every fall I sought a better chocolate factory and "fresh fields and pastures new," where I could blend

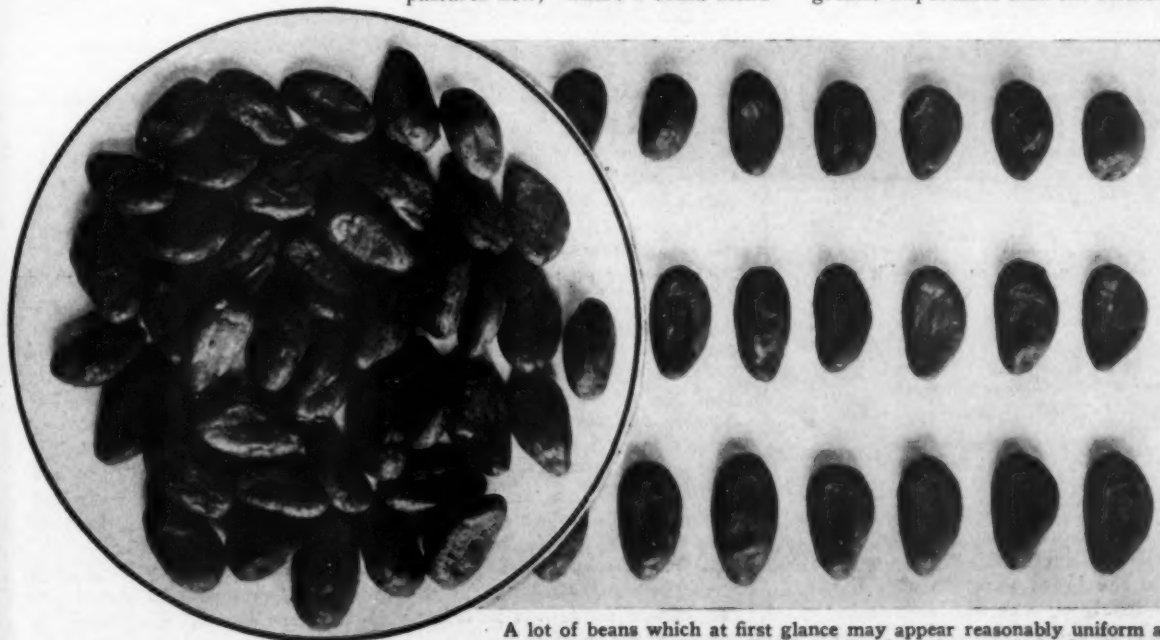
cocoa prepared by a happy superintendent with milk from contented cows.

#### **Lack of Public Discrimination, the Tragedy of Chocolate**

It is a fact and a tragedy of the chocolate industry that so many people put up with what they buy without a murmur, and that the public is generally so indiscriminating. Governments and similar factories of ignorance have been wrecked on inferior beer, thin milk and poor bread. Adulterators, fakers and diluters of foodstuffs have more than once been rightly murdered, yet no one has seen fit to bomb the maker of rubbishy chocolate. Perhaps that honor is reserved for myself, and, in anticipation, I have for years kept a record of the most deserving.

But to return to where we got off our tracks—the two steps in the manufacture of chocolate that the quality man cannot afford to cut out are cleaning and grading.

Several comments have already been levelled at my articles that I am taking a desperately long time to get to the manufacture of chocolate. But that is just it—good chocolate is neither quick nor cheap in the making. And the telling about it must also be long if, as I believe, the minute details, of infinitely greater importance than the scratch-



A lot of beans which at first glance may appear reasonably uniform as to size often reveals startling irregularities when graded. If all sizes of beans are roasted together, the small beans burn before the large beans are fully roasted.



## PRE-ROASTING TREATMENT OF CACAO



In the cacao pod itself there are beans of all sizes. The pods vary in size on the same tree and the beans vary in size from pod to pod.

ing of heads whether a circular or horizontal conch should be used, are being gone into here for the first time. In any case I would like to hear what the readers of the "Manufacturing Confectioner" think about it.

There is one other point that should be cleared up before we get on to roasting. "Can the beans of commerce be improved by any known treatment before being roasted?" Generally speaking the answer is, "No!"

Mouldy beans can be largely freed of mould by soaking in dilute borax or in boracic acid solution, and by subsequently drying. But the beans are not improved by this treatment, only prevented from getting worse; and the beans must be very thoroughly dried afterwards if no further mould is to grow. Similar treatment is sometimes beneficial if the beans are very maggoty. It

*Throughout this interesting series on chocolate and cocoa, Mr. Whymper expresses his personal convictions in characteristically vigorous style. It is an epic of the LITTLE things in chocolate manufacture—the big things usually get taken care of all right—but it is the little things (little only in the sense that the average manufacturer of chocolate is prone to forget them) which make or mar the quality and sales appeal of the finished product. We promised to turn the author loose in this series (we always do, anyway) to tell the boys in the swivel chairs exactly what he thought of the mess they have been making of cocoa and chocolate manufacture—and he has lived up to his part of the bargain by challenging anybody and everybody including the Editor.*

*We have followed this series with mixed feelings of satisfaction and awe—awe of what skeleton he was going to drag out of the closet next. If you have missed any of the previous instalments, drop us a line and we will be glad to supply them as long as our limited stock of back number copies lasts.*

*Mr. Whymper's motto is "a hot one in every shot." Watch for future instalments, for whether you buy or make your own chocolate, the things which Mr. Whymper has up his sleeve to say to you are,—well, read them and you'll see.*

THE EDITOR.

**MR. WHYMPER'S SERIES TO DATE—**

Chat No. 1—Use Less Accra .....	November, 1928
2—Chocolate "au naturel" .....	December, 1928
3—Buy Cacaos by Brand .....	January, 1929
4—Origin and Identification of Off-flavors in Cacao .....	February, 1929
5—The Chemistry of Cacao Color .....	March, 1929
6—Chocolate—Aroma Elusive .....	April, 1929
7—Meet Mr. Cocoa-grower .....	May, 1929
8—Chocolate Quality and the Cacao Moth .....	July, 1929
9—Arriving at Blend .....	September, 1929

**IN THIS ISSUE—**

Chat No. 10—Pre-roasting Treatment of Cacao (current issue).

**COMING—**

Chat No. 11—Preservation of Aromas in the Roasting of Cacao.  
 Chat No. 12—Prostituting Chocolate Quality for Volume Production.  
 Chat No. 13—After-development of Cacao Aroma in Chocolate Coating.  
 Chat No. 14—Conserving Flavor in Cocoa Powder.

must not be forgotten, however, that beans once mouldy and maggoty remain inferior beans always. It is easier to make a silk purse out of a sow's ear than to make a good chocolate from a mouldy moth nursery.

**Post-Fermentation of Doubtful Value**

So far as what is known as "post-fermentation" is concerned (i. e., the further fermentation of the raw, dried, commercial cacao beans) nothing can be gained, but a little

saved, by closing the door of the safe after most of the gold has gone. The active enzymes that existed in the fresh cacao bean and in the bean during original fermentation, and that should have changed the color, developed the flavor, and modified the astringency of the cacao, were mostly killed at the temperature and by the process of drying. True, a very small amount of enzyme will do an enormous amount of work, and that cacao beans that are under-fermented, acid, astringent to the palate, and flat in shape, are improved and plumped up somewhat

by soaking in water for a period. The difficulty and the cost of drying these soaked beans, however, after the desired result has been obtained make the commercial value of such treatment extremely doubtful. Moreover, unless the soaking is conducted by a thoroughly skilled man accustomed to fermenting cacao, it is easier to ruin completely the poor cacao than to make it fair, which is the best that could result.

We have already referred to the action of the enzyme lipase in the presence of moisture and oxygen upon cacao fat—there is a tendency to form fatty acids which, though not entirely the cause of rancidity, are a necessary part of the result. For this reason, among others, post-fermentation treatment with water is dangerous, and the neutralization of the acidity by alkalis is sometimes recommended. While it is true that alkali neutralizes acid, anyone suggesting the fermentation of cacao in an alkaline medium shows complete lack of knowledge of how cacao aroma is developed in the bean. The treatment of cacao with alkali for other purposes, however, such as in carrying out the Dutch process, is another matter, and will be considered later.

(To be continued)

## Glidden Food Products Co. Becomes Durkee Famous Foods, Inc.

The Glidden Company, through its food subsidiary, Glidden Food Products Company, has acquired during the last few months several companies manufacturing well-known brands of foods.

Prominent among these is the well-known firm of E. R. Durkee & Company. For seventy-four years the name of Durkee has identified the most famous line of salad dressing, spices and condiments to both the grocery trade and the consumer. It was, therefore, most logical to extend the name Durkee to all of the food products made by the Glidden interests and to change the name of this division of the company from Glidden Food Products Company to Durkee Famous Foods, Inc.

Additional well-known products, the names of which are familiar household words, will be added to

the group of Durkee famous foods just as rapidly as their sales possibilities are proven. The line will eventually embrace a very wide variety of famous grocery specialties.

This change in name became effective as of October 1, 1929.

**1829-1929**

On August 31st last, Schimmel & Co., Ltd., Miltitz, near Leipzig, Germany, formally celebrated their one hundredth anniversary. This firm is one of the oldest in the essential oil and aromatic chemical industry and was the first to establish a scientific research laboratory for the scientific control of their finished product.

It is learned from Fritsche Brothers, Inc., of New York, who are the sole selling agents for Schimmel products in this country and Canada, that the celebration was attended by more than a thousand scientists and chemists from many parts of Europe and the United States.

**His Task Complete**

The recent death of William Henry Moench, general manager of the New

York Shelled Nut Department of Hacht, Braun & Co., is a very distinct loss to the industry. He was one of the best known, best liked and best posted men in the confectionery supply line. Combining wide experience with intelligence and an astounding memory, he had a knowledge of trade conditions and requirements here and abroad possessed by few in the bakers' and confectioners' line. As an indefatigable worker he earned the respect and admiration of all those with whom he came in contact both in business and a social way. His death leaves a void among his countless personal and business friends that cannot be filled.

**"Closed Circuit" Fondant**

(Continued from Page 41)

4X sugar with a proper proportion of invert sugar and water in a Universal mixer. Sometimes they even emulsify the syrup where they want to incorporate butter.

A book on the subject of fondant and fondant development ought to be comparatively simple.

(Guess we ought to have Cliff Clay write it. Who'll second the motion?—The Editor.)



*The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Each month he picks up at random a number of samples of representative candies. This month it is cream and cordial; next month it will be pocket package goods. Each sample represents a bona-fide purchase in the retail market, so that any one of these samples may be yours.*

*This series of frank criticisms on well-known, branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of the M. C.*

## Cream and Cordial Goods

### Code 10A 29

#### Chocolate Covered Cherries, 1 lb. —40c

(Made in Chicago, Ill.)  
(Purchased in a 5 and 10 cent chain store, Chicago, Ill.)

These cherries are sold in bulk.  
**Chocolate Coating:** Bittersweet.  
**Color:** Good.  
**Gloss:** Good.  
**Taste:** Good.  
**Number of Pieces to Pound:** 28 pieces.  
**Center:**  
**Flavor:** Good.  
**Cordial:** About 50% cordial, balance fondant that was soft and had a good flavor.

**Remarks:** These cherries at 40c the pound are very good.

### Code 10B 29

#### Chocolate Covered Cherries, 1 lb. —49c

(Made in Chicago, Ill.)  
(Purchased in retail drug store, Chicago, Ill.)

**Appearance of Package:** Good.  
**Box:** White with a branch of red cherries and leaves, name in blue, tied with red cord.  
**Appearance of Goods on Opening:** Bad. A number of pieces broken. Partition used.  
**Chocolate Coating:** Bittersweet.  
**Color:** Good.  
**Gloss:** Hardly any; most pieces were gray.  
**Center:**  
**Flavor:** Fair.  
**Cordial:** About 50% cordial, balance soft fondant.  
**Remarks:** This box is not up to stand-

ard compared with other boxes of cherries at a lower price. This ought to be a good cordial cherry and ought to "stand up" as well as or better than other samples examined.

### Code 10C 29

#### Cream Mints, 2½ oz.—10c

(Purchased in a chain drug store, Chicago, Ill.)

**Appearance of Package:** Good.  
**Box:** Red tin, name in white and red on gold base. Very neat package for a 10c seller.  
**Cream Mints:**  
**Texture:** Too hard.  
**Flavor:** Hardly any could be tasted.  
**Remarks:** Suggest these mints be packed in a wax bag before putting in the tin. This would help to keep the goods soft; also help to retain the flavor.

### Code 10D 29

#### Chocolate Covered Cherries, 1 lb., 49c

(Made in Chicago, Ill.)  
(Purchased in retail drug store, Chicago, Ill.)

**Appearance of Package:** Good for this class of goods.  
**Box:** 7 in. by 4 in. by 2¼ in. Tied with red ribbonzene.  
**Appearance of Goods on Opening:** Good. Pieces all in place and in good condition. Partition used.  
**Number of Pieces to Pound:** 24 pieces.  
**Chocolate Coating:**  
**Color:** Good.  
**Gloss:** Good.  
**Taste:** Fair.  
**Center:**  
**Flavor:** Good.

**Cordial:** Fair. About 25% cordial, balance fondant that was soft.

**Remarks:** This box of cherries at 49c is exceptionally good and very cheap. Suggest the cost sheet for this box be looked over.

### Code 10E 29

#### Pineapple Cubes—70c per lb.

(Purchased in retail drug store, Chicago, Ill.)

(Made in Chicago, Ill.)  
**Goods sold in bulk.**  
**Chocolate Coating:** Coating was so thin nothing could be tasted but center of pineapple.  
**Center:** Tasted and ate like pineapple cores.

**Remarks:** If more chocolate coating were used this would be a better eating piece. The price of 70c the pound for this piece is high, at least enough coating could be used so some chocolate could be tasted.

### Code 10F 29

#### Cream Filberts, 1 lb.—39c

(Made in Boston, Mass.)  
(Purchased in a chain drug store, Boston, Mass.)

**Appearance of Package:** Good for this priced goods. Light cream colored loose wrapper used. Name in brown.  
**Box:** 8¼ in. by 5 in. by 1¼ in.  
**Appearance of Box on Opening:** Good. These cream filberts were crystallized and were round in shape.  
**Number of pieces:** 37.  
**Crystal:** Very good.  
**Cream:** Soft and creamy.  
**Center:** Large fresh filbert; had a good taste.



## THE MANUFACTURING CONFECTIONER

**Workmanship:** Good.

**Remarks:** At the price of 39c this is a cheap box of candy and of good eating quality.

Code 10G 29

**Chocolate Cream Cake, 1½ oz.—5c**

(Made in New York City.)

(Purchased in a railroad depot, New York City.)

**Appearance of Package:** Good. Wrapper of white, name in large green letters.

**Bar:** 3¼"x2½"x½".

**Chocolate Coating:** Fair.

**Center:** Orange cream: Fondant good, flavor of good quality.

**Workmanship:** Fair.

**Remarks:** A better flavor can be used and a little more care taken in the dipping of this bar.

Code 10H 29

**Assorted Chocolate Creams, 1 lb.—85c**

(Purchased in chain drug store in New York City.)

(Made in Chicago and New York City.)

**Appearance of Package:** Neat. White glassine wrapper, two gold seals on ends.

**Box:** 8½"x4"x2". White box, name in gold and gold around edge. This

is a plain but neat box for this class of goods.

**Appearance of Goods on Opening:** Fair. One piece broken. Packing very loose.

**Chocolate Coating:** Bittersweet.

**Gloss:** Mostly all gone.

**Color:** Very dark.

**Taste:** Good.

**Centers:**

**Vanilla Coconut Cream:** Good.

**Plain Vanilla Cream:** Fair, a little dry.

**Vanilla Pecan Cream:** Good.

**Vanilla Walnut Cream:** Good.

**Coconut Crescent Cream:** Good.

**Vanilla Brazil Cream:** Good.

**Assortment:** Fair.

**Workmanship:** Good.

**Remarks:** This box of creams is of good quality but the assortment is too small. Suggest some fruit flavors be used, as strawberry, raspberry, in fact, any good fruit flavor would do. Suggest a glassine liner be used as it helps to keep the goods in good condition, also helps the appearance of the box when it is opened.

Code 10I 29

**Cordial Fruits and Cream Nuts, 1 lb.—\$1.50**

(Made in New York City.)

(Purchased in a railroad depot, New York City.)

**Appearance of Package:** Good. White Cellophane wrapper used, also ¾" orange silk ribbon tied end to end.

**Box:** 8¾"x5"x2½". Extension top. Box design comprised a basket of fruit on blue background with name in gold.

**Appearance of Goods on Opening:** Good.

**Chocolate Coatings:** Sweet.

**Gloss:** Good.

**Color:** A little light.

**Taste:** Good.

**Centers:**

**Apricot Jelly:** Good.

**Cordial Cherry:** Good.

**Glace Cherry:** Good.

**Filbert Cluster:** Good.

**Prune:** Good.

**Cordial Raisin:** Sour and no cordial at all.

**Panned Nuts:** Good.

**Cordial Strawberry:** Very good.

**Cordial Pineapple:** Very good.

**Date:** Good.

**Chocolate Almonds:** Good.

**Glace Pineapple:** Good.

**Ginger:** Good.

**Almond Cluster:** Good.

**Nutted Chocolate:** Good.

**Brazil:** Good.

**Nut Cluster Belmont:** Good.

**Pecan Cluster:** Good.

**Assortment:** Fair. This box needs more fruits.

## How Do Your Creams and Cordials Compare With These?



# Are You Dissatisfied With Your Cream and Cordial Goods?

*—an occasional glance around you at what the other fellow is doing will broaden your perspective and help you to originate new ideas of your own.*

*—The Candy Clinic simplifies the task by searching the highways and byways of the candy mart for you. Alertness is the price of progress.*

**Workmanship:** Good.

**Remarks:** At \$1.50 per pound the price is high. More fruit cordials are needed to make this a good fruit and nut package. Nut goods made up the larger portion of this assortment.

**Code 10J 29**

**Cordial Cherries, 1 lb.—\$1.00**

(Made in New York.)

(Purchased in a high grade retail store, New Haven, Conn.)

**Appearance of Package:** Good. White cellophane wrapper with gold seals on ends. Has sales appeal.

**Box:** 8¼"x5"x2½" with extension top. Box finished off in gold, blue, red and white.

**Appearance of Goods on Opening:**

Fair. Partition used.

**Number of Pieces:** 30.

**Chocolate Coating:** Sweet.

**Gloss:** Partly gone.

**Color:** Good.

**Taste:** Good.

**Center:**

**Cordial:** Very little, cream only partly cordialized.

**Cherries:** Good.

**Flavor:** Hardly any.

**Workmanship:** Good.

**Remarks:** These cherries are not up to standard. Most all had very little cordial, and no flavor could be tasted.

**Code 10K 29**

**Cocoanut Cream Bar, 1½ oz.—5c**

(Made in Boston, Mass.)

(Purchased in Niagara Falls, Ont.)

**Appearance of Package:** Good. Red foil with white lines. Name in red and gold.

**Bar:** 3"x1"x¾".

**Chocolate Coating:** Fair. Did not have a good taste.

**Center:**

**Fondant:** Dry and had very little cocoanut in it.

**Workmanship:** Fair.

**Remarks:** This bar is not up to standard. Coating and center needs looking into.

**Code 10K 29**

**Chocolate Covered Cherries, ½ lb.—50c**

(Made in Boston, Mass.)

(Purchased in Niagara Falls, Ont.)

**Appearance of Package:** Good for this class of goods.

**Box:** 6"x3¾"x1¾". Entire top of box printed with branches of cherries in red, name in gold. White cellophane used for outside wrapper. Two seals used on ends.

**Conditions of Contents:** The contents of this box when received by the Clinic were found to be in one solid piece, due undoubtedly to abnormal conditions of temperature. It is therefore passed by without comment.

**Code 10L 29**

**Strawberry Cream Tablet, 2 oz.—5c**

(Made in Montreal, Canada.)

(Purchased on Toronto Boat.)

**Appearance of Package:** Good.

**Box:** 3¼"x1½"x¾". Tin foil wrapper, orange band, name in blue.

**Chocolate Coating:** Good.

**Center:** Fondant good, flavor good.

**Workmanship:** Good.

**Remarks:** This is a good cream bar.

**Code 10M 29**

**Cordial Gum Drops, ½ lb.—40c**

(Purchased in Bouville, N. Y.)

**Appearance of Package:** Good.

**Box:** 7"x3¾"x1". Wrapper of gold paper, name printed in brown, two gold seals used.

**Appearance of Goods on Opening:**

Fair. Red cups used.

**Chocolate Coating:** Sweet.

**Color:** Good.

**Gloss:** Entirely gone.

**Taste:** Good.

**Center:** Crystal cordial.

**Flavor:** Good.

**Cordial:** Very good.

**Number of Pieces:** 16.

**Workmanship:** Good.

**Remarks:** Suggest a wrapper of cellophane be used on the box. This is a good cordial piece of candy and a little different than the other boxes of cordials on the market.

**Code 10N 29**

**Chocolate Cream Cake, 2 oz.—5c**

(Made in Boston, Mass.)

(Purchased in Albany, N. Y.)

**Appearance of Package:** Good.

**Cake:** Wrapped in white tin foil. White band printed in red lengthwise.

**Size of Cake:** 3"x2"x½".

**Chocolate Coating:** Good for this class of goods.

**Center:** Raspberry cream: Good.

**Flavor:** Good; had some fruit pulp.

**Workmanship:** Good.

**Remarks:** This is a very good cream bar—one of the best I have examined for some time.

**Code 10O 29**

**Cocoanut Cream Cake, no weight printed on wrapper—5c**

(Made in Toronto, Canada.)

(Purchased in Toronto, Canada.)

**Appearance of Cake:** Good. Wrapper red and blue, name in white, cake wrapped in tin foil.

**Size of Cake:** 3"x1¾"x½".

**Chocolate Coating:** Sweet.

**Color:** Very good.

**Gloss:** Very good.

**Taste:** Fair.

**Center:** Pink colored cream.

**Fondant:** Good.

**Flavor:** None.

**Workmanship:** Good.

**Remarks:** This bar would be a good eating bar if the center had some flavor that could be tasted.



# Ask Me!

*Every month the Ask Me Editor asks ten questions which every intelligent candy man should know. How do YOU rate on these questions?*

1. How is fondant now handled in a continuous flow from cooker to enrober belt without "sweating"?
2. What precaution must be observed in connection with water which is likely to come in contact with fondant at any stage after the cooking process?
3. What is the safe tolerance or maximum dextrose content of an all-dextrose marshmallow?
4. How can an all-dextrose marshmallow be kept white?
5. Why is a "remelt" cream always superior to a bob?"
6. Why are coatings made from the higher class cocoa beans usually more immune to factory troubles than coatings made with the cheaper basic cocoas?
7. What ingredient widely used in confectionery manufacture contains a substance which can be "irradiated" with ultraviolet light to produce vitamine D, the sunlight vitamine?
8. Is it practicable to impregnate candies with high vitamine-bearing materials without affecting their taste and general character?
9. Why was stone preferred to steel slabs for making fondant in the old days?
10. Which of the three sugars—sucrose, dextrose or levulose—possesses the greatest resistance to fermentation?

## Answers to September Questions



1. What are the names of the five commercial grades of shelled California almonds?

Ans. Nonpareil, IXL, Seedling, Drake and NePlus.

2. What is the most fertile cocoa-nut growing spot in the world?

Ans. Luzon, in the Philippine Islands.

3. What product of confectionery manufacture is known as a "super cooled solution"?

Ans. Hard candy.

4. How much tin does a candy tin contain?

Ans. About 2 per cent, the rest being iron.

5. What familiar packaging material may be produced from agricultural waste such as corn stalks, etc.?

Ans. Cellophane and similar cellulose acetate products.

6. What new use has been found for cashew nut oil in the packaging field?

Ans. Making oil-treated papers for cap liners, etc.

7. What is the difference between centrifugal and "open kettle" molasses?

Ans. The finest open kettle molasses is that produced by evaporating the juice of the sugar cane without removing any of the sugar and without the use of sulphur. Centrifugal molasses is the residual product of successive boilings remaining after a portion of the sugar crystals has been removed.

8. Since invert sugar is produced from ordinary sugar, why is it sweeter than ordinary sugar?

Ans. All sugars vary in degree

or strength of sweetness, when ordinary sugar is broken down into invert sugar, two new sugars are formed. The average sweetness of these two sugars is greater than the sweetness of the sugar from which they were originally derived. Thus with ordinary sugar (sucrose) rated at 100, the break-down sugars, levulose and dextrose, would be rated at 175 and 75 respectively. The average of these two  $(175 + 75 \div 2)$  equals 125, or 25 per cent sweeter than sucrose.

9. What widely used candy "doctor" contains a substantial percentage of maltose (malt sugar)?

Ans. Corn syrup.

10. What packaging material is measured in French lignes?

Ans. The width of ribbons is designated in terms of "lignes," viz.: No. 5 ribbon is 5 lignes wide.



# To Bob, or not to bob—

BY FRED A. VON LIEBERMANN

**I**T IS rumored that one of our largest and most progressive wholesale houses has recently completed the installation of a new cream department at a cost approximating a quarter of a million dollars. Compared to Henry Ford's retooling of his River Rouge plant, the expenditure of a few hundred thousand dollars may seem trifling. But for an industry as notoriously backward in the matter of mechanical equipment as the candy industry, the fact that a manufacturer is willing to invest a quarter of a million in the future of his cream goods department is a matter worth noting.

Fundamentally, it is a recognition of the new competition. It is a concession to the modern need of economical, uninterrupted production on a steadily mounting quality plane.

For there is no doubt but that most of the modern advances in cream-making have been for the better, so far as quality is concerned. And with large scale production has come lowered labor costs and smoother planning.

The cream unit which forms the nucleus of this rather extensive modernization is said to be capable of turning out 500 to 1,000 pounds up per day of finished cream centers without interruption. The cream, colored and flavored, is beaten through the beaters, which in turn deliver it directly into the hoppers of the Moguls. From cooking to casting is one continuous series of operations.

This process produces centers which have "the first set of the cream." In other words, the old idea that the cream had to be "sweated" or aged is definitely out so far as this type of plant is concerned.

Much is contributed to the available space and the sightliness of the department by the elimination of the cream tubs standing around on the floor. No danger of the cream fermenting in the tubs or acquiring contamination from its surroundings—it is evident that the savings in time and labor are not the only advantages of the continuous fondant process.

But for the benefit of those not so for-

tunate as to be in a position to scrap their old and venerable Model T's for a 1930 Lincoln, there are a few practices of the cream department which might be regulated to the satisfaction of everybody concerned. These are the things which cause centers to blow up, shrink, ferment, and act in countless other fiendish ways that plague the souls of candymakers. Number One in this category is the practice of hosing out or rinsing out the tubs with un-boiled water before putting the cream into them. Deadly Deed Number Two consists in jabbing the spade into a pail of fresh water as we take the cream out of the tub. Number Three, covering the cream tubs with wet cloths and using fresh water to keep them wet. Most of these sins, as you see, have to do with water, for water is a great place for wild yeasts and microbes to get in. Wherever water is used in connection with fondant after it is made, whether it is to rinse the tubs, clean the spade, to keep cloths wet or as an addition to the cream itself, boil it first and keep it in a closed container when it is not in use.

## Why Re-Melts Are Best

If you want good cream centers use a remelt, that is, make your cream with any percentage of corn syrup you want, put it into a remelting kettle, add color, flavor, invertase, whip, etc., heat to the proper temperature and cast in starch.

If you are working on a "bob" center, try a remelt and see the difference. You will have a real cream center which will eat well and stand up for a long time. It will not shrink from the bottom, but will hold the moisture that you want it to hold without separating.

Even for the cheapest kind of work remelts save time, labor and space. Usually the product is improved without additional expense.

If we take one-third bob and two-thirds cream we get a cream center. But it is far from being a good cream center. You cannot add one quart of water to two quarts of milk and get three quarts of milk. If you could and could get away with it con-

(Continued on Page 61)

# Monthly Digest of CURRENT TECHNICAL LITERATURE of Practical Interest to the Confectionery Industry

**Packaging Problems of Confectionery.** By Stroud Jordan. Food Industries, vol. 1, p. 13 (1928).

Ideal storage may be regarded as that created by artificially conditioning the space where finished goods are to be kept to the end that each individual piece may be given its own proper conditions of temperature and humidity, admittedly an undertaking of considerable magnitude. Although varieties of confectionery are so numerous as to render impracticable any attempt to provide optimum conditions for the individual variety, yet the problem may be solved in part by providing storage conditions that will meet the requirements of the average of a large number of varied products.

Packages may be classified in general under three heads—the tight seal with vacuum, the tight seal with atmospheric pressure and the average or ordinary package. Confectionery may be divided arbitrarily into five general classes for the purpose of this discussion, viz.: chocolate, hard candy, marshmallows, caramel and fondant.

Recent work in the Carbohydrate Laboratory at Washington has definitely established that chocolate and chocolate coated goods may be stored under varying conditions, from a few degrees below freezing to within a few degrees of the melting point of cocoa butter. These temperatures are from 22° to about 65° F. When chocolate goods are removed from cold storage progressive steps should be taken to acclimate such goods properly, unless they have been packed into the container under carefully regulated atmospheric conditions and are hermetically sealed before placing in storage.

In the case of the tight sealed package no care is necessary in the removal to average or ordinary room temperature for there can be no air interchange and chocolate goods, *per se*, have little tendency to give off moisture. The chocolate coating prevents this. In the case of goods packed into ordinary

containers of the loose cover type, an air interchange with the outside may cause moisture from the outside air to settle on the goods and dissolve sugar from the coating. This will occur when cold goods are placed in a warmer and more humid atmosphere. After inside and outside conditions have reached an equilibrium, the moisture evaporates from the surface of the chocolate and leaves fine sugar crystals which give the characteristic sugar bloom that makes the product unsalable. The storage of chocolates under commercial conditions is safe if the packages are tight, but where an interchange of air between inside and outside is possible, it is necessary to regulate temperature and humidity. Removal of non-air-tight packages from the average storage condition should be done through successive steps of temperature increase, especially from the condition of very low temperature storage.

In the handling of hard candy it is found that both corn syrup and invert sugar have a tendency to absorb moisture at a rate that is governed by atmospheric conditions. It is doubtful whether the vacuum package offers enough advantage over the tight seal under normal conditions to make the extra cost worth while. This statement is made with the assumption that the packaging has been done under well regulated conditions and not under the haphazard atmospheric conditions of non-controlled floors.

Friction caps, screw caps, or caps of the clamp type will diminish interchange of air with the outside if they fit properly, and any minute leakage which occurs will affect the product only by normal expansion and contraction under varying storage conditions.

From a sales standpoint, the package should be transparent, but unfortunately light affects certified colors in time. On the other hand, a metal package will keep light out and preserve brilliancy, but the sales appeal of attractive colors and shapes in this type of candy is lost. Regardless of whether we adhere to the metal package or the glass jar school, one fact to keep in mind is that air interchange with the outside must be eliminated, or kept down to a minimum, in order to extend shelf life in the store.

Marshmallow goods are made in both hard and soft varieties. The harder variety is affected by temperature to such an extent that cold winter weather causes it to become as brittle as glass, while hot humid weather makes it as soft as a wet rag. The soft variety of marshmallow has a tendency to lose moisture, while the hard variety is little affected by average conditions of storage, but tends to absorb moisture rather than give it off. Products in which marshmallow has been used will be found to act similarly if it is the predominating ingredient.

These two types of goods involve two different packaging problems. An ordinary package is satisfactory for the hard variety if properly wrapped after packing. Only excessive temperature and humidity will cause it to absorb moisture, and very cold weather is required to make it hard and brittle. A properly balanced formula will render the proper packaging of this product more easy of solution, but the container cannot make up for deficiencies of the product itself. The soft variety of marshmallow requires a moderately tight package which will cut down air interchange and keep the goods in condition, but it must not be too tight. When an air-tight package is used and the moisture content is high, goods of this sort will sweat and stick together under conditions of storage where high temperature prevails.

The problem of packaging caramels, kisses and toffee is not of serious moment unless the goods are



# INCREASED PRODUCTION

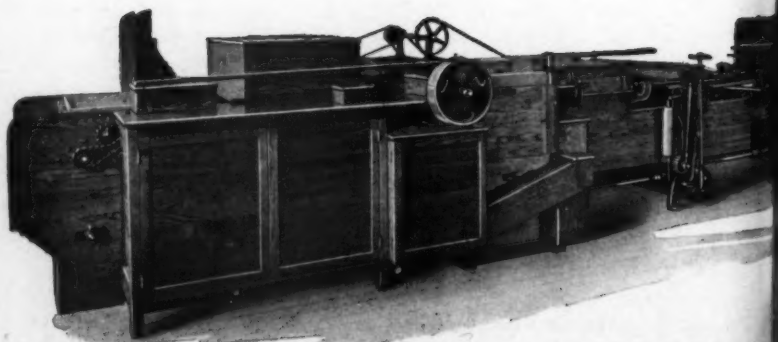


## The Full Automatic Mogul (Steel or Wood)

**T**HE Automatic Mogul has repeatedly proven itself a time and money saver. It eliminates the evils of the starch room doing all the moulding, printing and casting in continuous operations—with practically no dust.

Impartial surveys made in many plants show the decided savings to be gained. For instance, in one plant an Automatic Wood Mogul saved \$5,264.00 a year producing a daily total of 10,000 pounds of centers—at a production cost of \$.00174 per pound.

We'd be glad to send you detailed information regarding the Automatic Mogul—or any other piece of equipment you might need. Just drop us a line and we'll send it right along.





# PRODUCTION

... We'll erase  
the question mark

THIS problem of putting straight line production into candy plants has been our job for nearly two score of years. Hence we know what you are up against and what we have to do.

The knowledge and skill our engineers have gained during that time is at your disposal. They will be glad to advise you by recom-

mending..time and money.. saving methods ..or machines where necessary. And your taking advantage of their specialized skill and knowledge will incur no obligation on your part.

Think it over, then ask us to stop in and see you to talk over your individual problem. We'd be glad of an opportunity to help you.



## National Equipment Company

*Largest Manufacturer in the World of Candy and Chocolate Machinery*

Springfield, Massachusetts, U.S.A.

### He Who Reads May Run

to be shipped through variable climatic conditions. While these goods are sticky in character and possess variable moisture content, which as a rule is quite high, the wrapping of each individual piece in waxed paper automatically relieves the package of that portion of its responsibility having to do with the restraint of moisture interchange.

If storage for long periods of time is contemplated or shipment is to be made through variable climatic conditions, an air-tight container is not only desirable, but is an actual necessity. Butter and vegetable fats are often used in such products, and they have a tendency to become rancid if left in contact with the air. This indicates the use of a vacuum package to meet extreme conditions. Metal containers with tight-fitting covers have found much favor for such products.

Fondant products offer a problem all their own. This type of goods is nothing more than a mixture of color and flavor with a mass of tiny sugar crystals and saturated syrup. Fondant contains ten to fifteen per cent moisture and readily gives off moisture if stored under high temperature conditions. Under these circumstances an airtight package will retain all the moisture given off, later permitting it to condense on the lining and on the goods themselves. The result is a sweat and by it sugar is dissolved.

The syrup thus formed soaks slowly into each piece and dissolves off the surface of any air holes which may exist in the cast piece. Little reservoirs of syrup are thus formed where the air hole previously existed and the syrup soaks into the goods, leaching out color as it goes. The net result is candy "smallpox" or "measles" and produces an unsalable product.

Fondant goods must be allowed to "breathe." They must be kept under regulated temperature conditions. In no case should vacuum or airtight packages be used for goods that are intended to be sent into average trade conditions. Fondant goods packages must have breathing ability but, on the other hand, the closure must be sufficiently tight to prevent undue loss of moisture.

**Surplus Fruits; what Shall we Do with Them?** By W. V.

Cruess. Food Industries, vol. 1, p. 30 (1928).

Although it has not received the nation-wide publicity accorded the cotton or the corn surplus, the fruit surplus has become of paramount importance to those directly concerned; that is, the fruit growers and those engaged in the preparation, preservation and distribution of fruit products. Not only does overproduction affect those fruit industries in which the surplus occurs, but it also affects others in which production has not unduly increased. Various possible outlets for surplus fruits are discussed, including the candy industry.

Comparatively little fruit is at present used in candy, although there are many imitation fruit candies. Fruit properly used in various standard candies such as fudge, marshmallow, gumdrops, nougat, caramels, cream centers, etc., not only improves the flavor of the candies, but also increases their healthfulness. Fruit renders candy "less filling," i. e., more can be eaten without discomfort because the fruit counteracts the "dead sweetness" of "all-sugar" candies. Candy manufacturers could use the now well known and widely advertised "health appeal" of fruits to increase the sale of candy. It is a case where the fruit and the candy industries could cooperate to mutual advantage and from the combined viewpoint of manufacture and sales.

**The Cause of Fermented Honey and Its Control.** By F. W. Fabian. The Fruit Products Journal and American Vinegar Industry, vol. 8, p. 18 (1928).

The control of fermented honey is of economic importance to honey producer and consumer alike. All samples of spoiled honey were found to contain yeasts. The water contained in the samples of fermented honey ranged from 17.3% to as high as 28.4%. Ordinarily it was found that the moisture content was 21% or more before the honey started to ferment. Experiments conducted by the author indicated that there is a relationship between the moisture content of honey and fermentation. Extracted honey which has an excessive amount of water present and which contains yeasts, as most honey un-

doubtedly does, will eventually spoil if it is held long enough in storage.

Likewise, honey that is stored in a damp cellar has a tendency to absorb moisture and when it has absorbed sufficient moisture, and if the yeasts are present it will ferment. This is especially true if it is subsequently removed to a warm place. Honey should be stored, therefore, in a cool, dry place.

It was found that by heating honey containing yeasts to a temperature of 145°F. for 30 minutes no spoilage occurred. Only well ripened honey should be placed in storage. Unripe honey should be evaporated until the excess water is removed before being stored. It should then be heated to a temperature of 145°F. for 30 minutes. This will help to evaporate the excess moisture and kill the yeasts present.

**Desiccating Shredded Coconut.** By A. E. Buchanan, Jr. Food Industries, vol. 1, p. 9 (1928).

The author describes the process used by the Franklin Baker Co. in its modern plant at Hoboken, N. J. Preparation of coconut for domestic, confectionery and baking consumption is primarily a process of drying. Delivered to the opening department, the bags of nuts are placed in steam cabinets and heated at 212° for ½ hr. This facilitates the opening operation.

Working with a small tool similar to an oyster knife, the line of "openers" (experienced male operators) split the nut, and with remarkable dexterity pry the meat out of each section of shell. The tough brown skin covering the nut meats is removed by a second manual operation carried out by skilled girl operators, this skin being pared off with a few dexterous strokes of a sharp, slightly curved knife. Carried on a belt conveyor, the nut meats are thoroughly washed by passing under brisk water sprays.

The meats are then carried by conveyor to a battery of shredding machines. A coconut is reduced to the desired size in 2 or 3 seconds, being thrown from the machine in a miniature blizzard of fluffy shreds. The shreds are conveyed to a battery of rotating pans, where they are mixed with sugar. A small quantity of salt is added to develop flavor

## THE MANUFACTURING CONFECTIONER

and glycerine is added to render the shreds less brittle. After this process is completed the coconut is carried through driers on endless belts of galvanized iron screen at a speed of 2 feet per minute. Entering the driers with about 45% of moisture, the coconut is warmed and dried by the passage of conditioned air and is finally cooled.

The maintenance of the proper moisture content is the fundamental secret of a consistently satisfactory product, for coconut in this condition is not subject to rancidity or infection by insects. The adoption of scientific methods for moisture control is stated to be the most important improvement that this plant has made. Moisture determinations are made frequently by the chemical laboratory.

Following the drying operation, the product is screened to separate it into four grades, differentiated by the length of the shreds. Desiccated coconut, comprising about 75% of the plant's production, is marketed in barrels, tins and cardboard boxes. Among the most appetizing varieties of the Baker products are the crisp, brown toasted flakes in demand largely by the candy trade. Nuts for this purpose are chipped rather than shredded, and spread on trays stacked on a carriage, which is then rolled into gas-fired toasting ovens.

Coconut for certain purposes natural, moist condition. Various should reach the consumer in its difficulties made this impracticable until it was found that the sealing of the product in an atmosphere of carbon dioxide gas prevented bacterial action and rancidity. In addition to

this application of the Vitapack process using carbon dioxide gas the use of the process has been extended to other packing problems, such as the shipment of cashew, pistachio and other nuts from foreign depots and to consumers. The unqualified success of the system would seem to indicate that it will find wide application in industry for the distribution of perishable products.

As to by-products of this plant, coconut shells are in constant demand by the makers of activated carbon. Developed for use in gas masks during the world war, this substance is finding ever-widening application in industry for the decolorizer and deodorizing medium. Various grades of oil are produced from the parings and fragments of skin sliced from the nuts and the residual press cake makes an excellent ingredient of cattle feed.

**Chocolate.** British Patent No. 294,790 to A. Nyrop, Copenhagen, Denmark. In Food Manufacture, vol. 3, p. 529.

In making chocolate, in place of the usual intensive grinding of the initial materials they are brought into liquid form and then atomized in a heated atmosphere of air or other gas. Melted cocoa-butter and/or cocoa mass or other fat and a solution or liquid mass of sugar and cocoa in milk are simultaneously atomized in warm gas by the same or separate atomizers. The chocolate particles are thus coated with the cocoa-butter, cocoa mass or fat and the powder may be pressed into moulds or formed into block chocolate.

Some of the liquid mass may be

added to the fat or some of the fat may be added to the liquid mass prior to the atomization. For bringing the initial materials to liquid form, ground cocoa beans may be swelled in a solution of sugar in milk, or unground roasted beans may be swelled by heating in water or milk and then ground in the swelled state. To increase the flavor the beans in water suspension may be fermented or alkali may be added before the drying operation.

**Preserving Eggs.** British Patent No. 296,012 to A. H. Penfold, London. In Food Industries, vol. 3, p. 530.

Liquid egg material in the form of yolks or mixed yolks and whites is preserved by adding dextrose—e. g., 10% to 20% by weight—and storing at a temperature below freezing point (e. g., about 15° F.).

**Vanillin.** The Perfumery and Essential Oil Record, vol. 20 p. 93 (1929).

Graesser - Monsanto Chemical Works, Ltd., have issued a circular detailing "two methods of distinguishing guaiacol vanillin from pure clove oil vanillin, which may be of interest to the vanillin buyer and consumer." One of these tests is as follows: Place a few crystals (about 0.1 gram) of the vanillin to be tested on a glass slip with about two drops of chemically pure concentrated sulfuric acid. Hold the glass slip against a white background. Clove oil vanillin will show a yellow brown coloration where the crystals meet the acid, while guaiacol vanillin will show a clear yellow coloration slightly tinged with green.

### To Bob or Not to Bob—(Continued from Page 56)

sistently, I am afraid it would be bad for the milk industry, since it would be more overcrowded than it is.

Well, when you add a bob syrup to finished cream you are weakening your cream just that much and laying yourself open to all sorts of unexpected troubles later on. It does not matter how small a bob you wish to add, not even a magician can turn that syrup into cream.

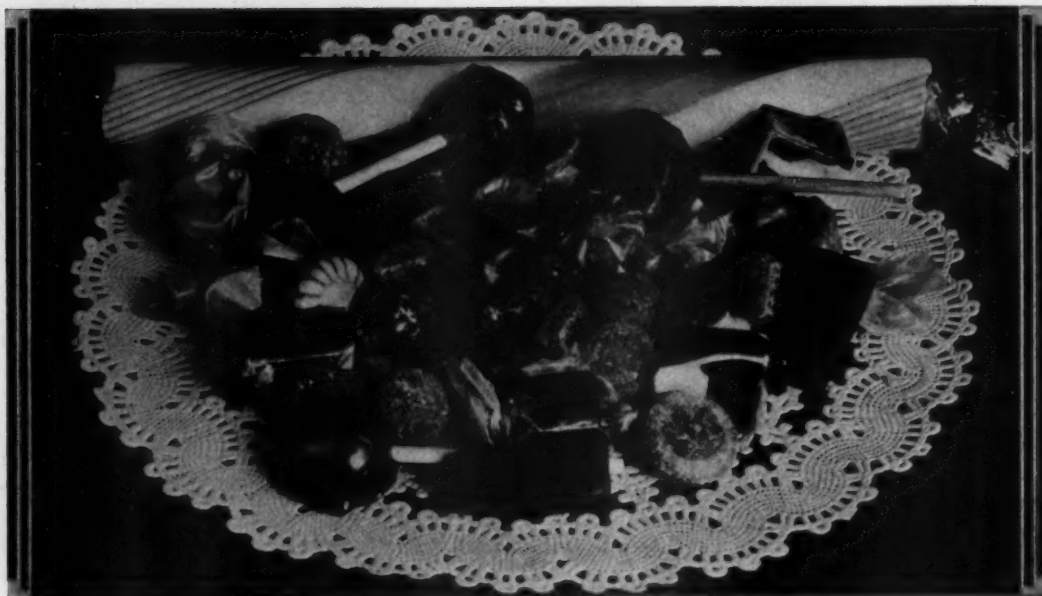
Of course, there are cases where the number of cream beaters is inadequate to meet the demand. This is about the only reason I know of for continuing to use bobs. But if the house expects to turn out good work, enough cream beaters ought to be installed to meet the needs of the cream department. We cannot all have the latest

machinery in the way of large production continuous cream units, and so will have to struggle along for a while with our cream tubs.

But we can make the best of it and give the quality man a run for his money by making a good cream, letting it set over night and making remelts for our cream centers.

It is a good habit to get into, to wash your tubs at least twice a week with boiled water; to cover your tubs with wood or metal covers; to refrain from "sweating" the cream with wet cloths or from putting anything over the cream except the cover. Clean tubs, boiled water, metal or wood tub covers and remelts make the best cream centers.





Hard candies, taffies, caramels and "chewies"—such candies added to our daily menu will supply the stimulation so necessary to healthy teeth and gums—stimulation that our present diet of soft foods often fails to provide.

# Taffy, Teeth and Toothpaste

(Part VI—The Role of Candy in Science and Health)

BY ORVILLE H. KNEEN

SCIENCE is generally agreed that our teeth degenerate if they are not given hard things on which to work. In Farmers' Bulletin 535 of the Department of Agriculture, Mary Hinman Abel says:

"Modern specialists consider that the cleansing action of proper mastication is as important for the preservation of the teeth as regular use of the toothbrush. Investigations by G. V. Black on the crushing force of teeth have proved that sound teeth are capable of crushing much harder substances than hard candies, without injury."

"The comparative non-use of the teeth is a big factor in their decay," says Julius Friedenwald, M. D., Professor of Gastro-Enterology, and John Ruhrah, M. D., Professor of Diseases of Children (both of the University of Maryland) in their "Diet and Disease." They continue:

"With the refinement of foods, so that they no longer need chewing, the trouble begins. Sufficient hard food should be supplied, especially to children, so that they have something hard to chew on."

E. V. McCollum, Ph. D., and Nina Simonds, Sc. D., widely-known nutrition scientists, in "The American Home Diet" have this to say of candy and the teeth:

"The importance of furnishing something hard to chew on from early infancy is very great. Too many children are allowed to grow up on soft foods. When we chew fibrous foods we exert a pressure of 100 to 250 pounds on the teeth, and this insures a good circulation of blood in the inner part, and is a most important factor in developing the teeth and jaws."

"The freedom from decay of teeth among primitive peoples may be in some measure attributed to the necessity for vigorous efforts of the teeth made necessary by tough meats, hard grains, fibrous fruits and vegetables which furnished their food supply."

"The simple statement is frequently made that candy is bad for the teeth. It can be easily appreciated from what has been said that the matter can not be dismissed in this way. Candy is a food, as is sugar in any form, and may be taken with advantage if it is done in such a way as not to interfere with the selection of a proper diet."

James A. Tobey, Dr. P. H., in Hygeia

for May, 1928 (published by the American Medical Association) agrees with the modern view of candy and the teeth:

"The strength and welfare of the teeth depend on many factors, such as inheritance and particularly the general diet. Foods rich in calcium, such as milk and green vegetables, assist in the production of sound teeth, while active exercise, as by chewing tough substances, also serves to strengthen them. Sweets used in proper amounts will not harm the teeth when the general diet is well balanced and the customary oral hygiene habits are practiced."

#### Seating Teeth with Hard Candies

Not long ago Dr. Bundesen summarized in this way the verdict of science on "Sweet teeth":

"The first important thing is the right kind of food to build a strong matrix. Tell the mother that the best way to develop a fine, healthy set of teeth is to let the child chew something rough and coarse. Every day, after every meal, let him chew perhaps two or three little pieces of molasses candy.

"Provided the body is supplied with the teeth-building elements, the teeth will be healthy if used. Hard candies, such as molasses candy and stick candies, give this exercise to teeth and gums, and leave no residue. There's nothing better for massage and exercise of the teeth than good old-fashioned molasses candy."

And what foods are harder or more chewy than caramels and taffies? Not only do they give unlimited exercise to teeth and gums which rarely work on civilized foods, but they have another effect quite as important. Most stomachs are insufficiently supplied with the digestive fluids which break down the foods and prepare them for assimilation.

"Chewing a food of pleasant taste also stimulated the flow of the stomach juices," says Dr. Logan Clendenning in "The Human Body," telling of the classic experiments on the man with a glass window in his stomach, through which its processes were watched and measured for many months. "Other things being equal," he concludes, "you will digest more of a portion of food which you like than of food which you do not like."

And there are sound reasons for this. How many know that there is but one universal flavor which is equally craved by man, by birds, by beasts, and by insects? Says the Department of Agriculture, in its publication "Sugar":

"In addition to the energy value of sugar it imparts at the same time an agreeable flavor to food. If it were not for the

presence of sugar the diet would be less palatable to most persons."

#### Candy—A Digestive Stimulant

Walter H. Eddy, Professor of Physical Chemistry, Columbia University, has this to say of taste, in his "Nutrition":

"In general it is desirable that food combinations taste good, for our digestion apparently works best when we are in a happy frame of mind."

And who is happier than the man, woman, or child contentedly munching on a piece of tasty candy?

It is well known that a great many people do not have sufficient saliva in their food, perhaps because they bolt it; from excess of liquid at meals, or for other reasons. Eating a chewy candy greatly promotes the flow of saliva and gastric juice. Not only does this aid digestion, but it is of material value in preserving the teeth, both mechanically and chemically. Sugar and candies immediately dissolve in the saliva, unlike many other foods, and are carried away from contact with the teeth.

Farmers' Bulletin 535 of the Department of Agriculture has this to say of the effects of starch and sugar on the teeth:

"Form and manner in which material is eaten is more important a consideration than its exact chemical structure. Soft foods are especially likely to cause trouble, both because bits of them may remain in the teeth where they form 'placques' or other deposits from the teeth."

Another "ad" for the hard, chewy products of the candy factory:

"Decay is caused," says Everyman's Science (Daniel Russell Hodgdon, Sc.D., LL.D.), "by bacteria growing in the moist, warm food left between the teeth. If, after eating, the food is cleaned from the teeth with the aid of a brush and a good tooth powder, the danger of any presence of bacteria is removed."

If anyone should know about decay of the teeth, and its causes, it is the dentist. Dr. Harry N. Cotter, D.D.S., a well-known dentist of New York City, told me that in the West Indies, where he was born and raised, the natives have very fine teeth, which are rarely decayed. This he ascribes, to a large extent, to their habit of chewing the tough sugar-cane, which has a high percentage of very sweet and delicately-flavored juice.

This cane they chew the year around. Their mouths are almost constantly filled with the juice, which not only cleans the

(Continued on Page 66)

## Eric Lehman Asks: Are you "hooked

**I**F YOU are a practical candy man and want to get a big surprise, take my advice and make a periodical tour of the retail shops in your vicinity to see what they are selling. Maybe you've become a "shut-in" and don't know it.

At any rate, speaking for myself, ever since I undertook the task of making the retail rounds on behalf of the Candy Clinic I have been picking up useful information. Some of it I have been passing along to you. But a lot of it you would have to see and experience for yourself in order to be properly impressed with its significance to your work of planning and laying out new lines in the factory. I took to this nosing around the retail stores as more or less of a lark at first. I found it refreshing to get around to see what the other fellow was doing. It is a serious business with me now.

Take, for example, the old straight-run, cream goods favorites (better still, try to find a few of them). If my travels are any indication of prevailing conditions, uncoated cream goods, such as crystal cream wafers and assorted cream wafers, have become things of the past. Yet it was only a few years ago, as I remember, that these numbers were first rate sellers. I suppose the fact of the matter is, they still are—with some of the chains. But so far as the wholesaler manufacturers are concerned, one would scarcely know this class of goods existed.

### **Passed-up Summer Business in Uncoated Creams**

From all reports, we have just passed through one of the most favorable summer candy seasons which the industry has ever had. Made right and packed properly, this profitable class of summer goods could have filled up the holes in many a wholesaler's line. What's the answer?

I know of at least two chain store organizations which have built large and growing businesses on this type of candy during the past three or four summers. Pound boxes of crystallized cream wafers, crystal cream bars and crystal cream cocoanut bonbons are no less acceptable to consumers than they ever were, if you give them a chance to buy them.

Any number of creams of pleasing flavor

and variety could be put in half-pound and one-pound packages to meet the demand for a change from the conventional chocolate-covered goods. They show a long profit at a time when the general hue-and-cry is for more profit on stabilized production. They are easy to make and still easier to handle. The packing is usually simple and inexpensive. The candies themselves keep perfectly, no matter how hot the weather is. In mid-summer they are certainly more refreshing than chocolate-coated goods and the public will undoubtedly buy them in preference to the latter if given an opportunity to do so.

Of course, they won't buy these things if they don't see them on sale and they won't see them on sale unless you make it your business to make them for them. The general feeling among the retailers is that the wholesale manufacturers give them only what they wish to make and make no attempt to give them what they call for, or what they think might be good sellers. One man said:

"The big wholesale houses get all nicely 'hooked up' to make one line of goods, usually chocolates, and nothing under Heaven can get them to bother with a side line. We either have to take what they have to offer or leave them."

### **Maybe We Ought to Find Out What They Want**

Evidently there is something to what this man says, as one hears the same sentiment expressed pretty generally throughout the retail trade. Just how much business the wholesale manufacturer is losing by neglecting to turn these retailer wants into orders it would indeed be difficult to determine. But that it would run up into an impressive volume no one will deny.

It is hardly the need of simplification or standardization of lines that justifies this attitude on the part of the wholesale manufacturer, particularly since these same firms are in the habit of featuring special goods for almost every holiday that anyone ever heard of. They look upon these holidays as just so much added business, but pass up four consecutive months of summer by refusing to adapt their lines to the season's requirements. Result? The chains, which are only interested in the



# sell what the customers want?

## or what the machines turn out?

little white tape that comes off the cash registers, and who have no such seasonal inhibitions to make them forget their main purpose in life—give their stores exactly what they want and *get all the gravy*.

With the exception of cherries, straight-run cordial numbers are difficult to find on the retail market today. A few of the very high class retail shops handle them, of course, but although the popularity of this class of goods has repeatedly been shown, it is safe to say that these delicious confections cannot be found in one retail shop out of ten. Don't take my word for it; "knock off" some afternoon—drive around and see.

Of course, regular cordials, the kind without fruit centers, have been frowned upon for their mischievous propensities for some time. But one would think that cordialed pineapple, strawberries, etc., could be made very attractive in half and one-pound boxes. But no, the manufacturer doesn't put them up that way, or if he does, the retailer has never heard about it, so far removed is he from his real sources of supply.

### **Straight-Packed Fruits Scarce**

That the cordial fruit production of the country runs into tonnage, I am fully aware; the point I wish to make is that these goods are used in assortments and seldom appear straight-packed in half-pound or one-pound packages. A certain amount of business is also done in one to three-ounce, or so-called "pocket-size" packages.

And speaking of cherries, is it absolutely essential that the consumer buy a one-pound package? Why not a half pound, if they want it? In straight-run numbers it is quite conceivable that everybody may not want a full pound—may be deterred from buying any because a pound is too much of the same thing.

No matter how good a candy may be, nobody wants to eat a large number of pieces of one kind. It gets monotonous. Let the rest of the family help eat it up, you say. You forget that large families are not the vogue these days. Give them some half-pounds if they want them. I am sure there is nothing to be gained by

overselling a customer on a pound package when a half pound would do.

I have deliberately refrained from discussing quality until the very last. The editor once told me that to get over a point effectively I should begin talking about it right away, or else come in strong with it at the finish. I am going to try bringing it home hard at the finish because I want these few remarks to stay with you after you turn the page.

### **Hide-and-Seek Cherries**

There was a time when the customer who bought a box of cherries got a real "gob" of cherry with every piece. Now it's a game. In effect, you challenge him to find the cherry. As the amount of cherry-flavored material has decreased, the amount of fondant surrounding it has naturally increased to take up the slack. The result has been to produce a piece of candy in which the fondant dominates the cherry. The flavor of the cherry is completely submerged.

Now I am not going to tell you that you ought to use larger cherries if competition will not permit you to—but I am going to suggest that you do something about the fondant. You can get a good concentrated cherry flavor which will transform the whole business from a tasteless mass to something very much like what a maraschino cherry was expected to be a few years back. Use it liberally in flavoring the fondant, remembering as you check the taste of the fondant that the chocolate coating is going to weaken the result anyway. There is certainly nothing cheaper than flavor, considering what it will do for you.

With all of the "doctoring" agents, such as acid, cream of tartar, invertase, etc., which are available to the candymaker today, it seems a pity that one should find on the market a number of cherry packages in which the fondant has not been adequately cordialized. I think it is a mistake to depend entirely upon the acidity of the fruit and its adhering syrup to turn out a fool-proof piece of goods for you. Make up a few test batches and see how much doctor you need to add to your fondant to bring its cordial properties up to par.

## TAFFY, TEETH AND TOOTHPASTE

(Continued from Page 63)

teeth, but so far from impairing their desire for food, appears to improve their already well-developed appetites! The chewing is done with the back teeth, the ones which in the city give by far the most repair work to the dentist.

Dr. Carter said that he had never been able to trace a case of tooth decay directly to candy-eating. His own little girl has poor teeth, yet eats very little candy—although he allows her as much as she wishes—and he agrees with other authorities that the lack of calcium in the mother's diet before birth of the child probably accounts for her poor dental equipment. He inclines to blame soft, pre-digested foods for tooth degeneration, and has found that caries and other tooth diseases vary with the general health. Healthy parents usually start their children with sound teeth, and suitable diet keeps them sound.

Among the present-day debunkers of old-time beliefs, opinions, and prejudices against candy, none has been more outspoken than Woods Hutchinson, M. D. In the *Ladies' Home Journal* of March, 1929, he says once more, most forcibly:

### An Unsolicited Testimonial

"Less than a generation ago all self-styled authorities on dietetics from the priest and the puritan to the dentist and the doctor, were almost unanimous in fiercely denouncing sugar and all its works. According to their jeremiads, sugar decayed the teeth, it spoiled the appetite, upset the digestion, stunted the growth of children, hardened the arteries, and was the chief cause of rheumatism, cancer, gout, and insanity. Almost the only things it wasn't blamed for were the World War and the rise of Bolshevism.

"But now what a change! Never in all the history of science has our attitude toward

any food been so radically altered as it has toward this new staff of life within the past ten years.

The "candy" and delinquencies blamed upon sugar simmer down to the claims that it 'makes the teeth ache,' and, if eaten just before a meal, it sometimes kills the appetite for the meal before sufficient calories have been absorbed. Also, its taste is so attractive that children may devour it in excess.

"As a matter of fact, sugar in itself never affects a clean, healthy tooth, though it will sometimes make a decayed one jump. And here sugar deserves a vote of thanks for warning the owner of the tooth that it needs skilled attention before it becomes so bad that it has to be extracted."

We can add only one thought to this able statement by a medical man who knows his sugar. As was pointed out in a previous series in *THE MANUFACTURING CONFECTIONER*, on the history of sugar and candy: "Even the roots of the latest World War seem to have fed upon the bitterness of international sugar-rivalry and Germany's invasion with her low-priced beet sugar."

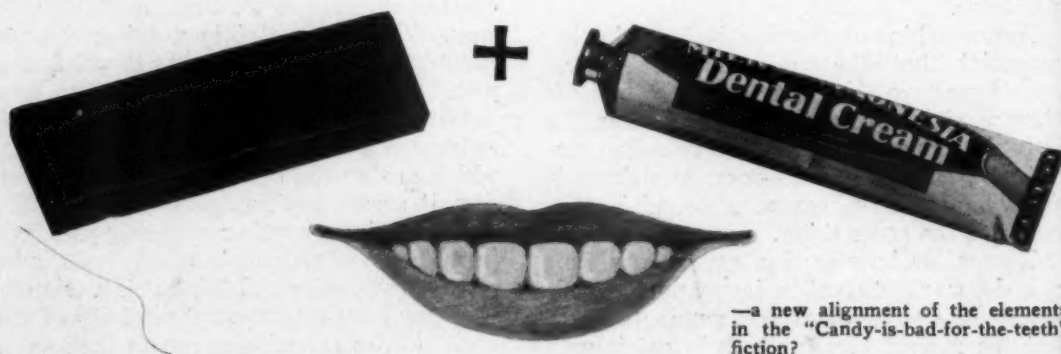
To sum it all up, we may quote Drs. Julius Friedenwald and John Ruhrah, of the University of Maryland, authors of "Diet in Health and Disease":

"Contrary to popular belief, there is no evidence to show that candy produces any injurious effect on the teeth."

The oldest medical journal in the Dominion of Canada, the *Canada Lancet*, puts it succinctly and to the point:

"There is not the slightest scientific foundation for the notion that eating candy injures the teeth. The LACK of sugar in the diet is much more likely to injure the teeth, through impaired nutrition."

And that's *that*!



as  
st  
  
ed  
at  
st  
te  
re  
ve

er  
ill  
ad  
or  
ls  
ad

able  
nows  
revi-  
Con-  
and  
atest  
e bit-  
and  
riced

Drs.  
h, of  
s of

no  
ay

Do-  
puts

n-  
n-  
ne  
h,



ements  
teeth"